

# JVC

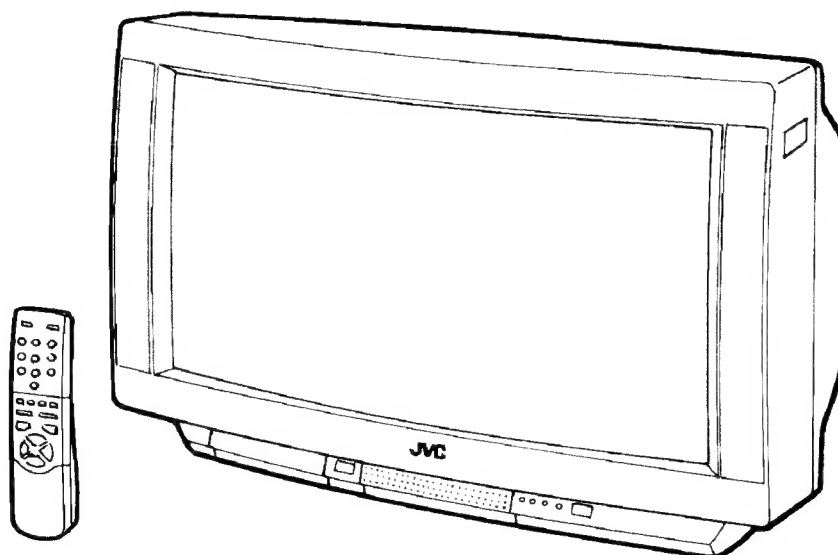
## SERVICE MANUAL

COLOUR TELEVISION

BASIC CHASSIS

MB

### AV-32WP2EN(A) AV-32WP2EP(A)




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# SPECIFICATIONS

Item	Content
<b>Dimensions ( W × H × D )</b>	805mm × 550mm × 550mm
<b>Mass</b>	54.8kg
<b>TV RF System</b> <b>Colour System</b> <b>Stereo System</b> <b>Teletext System</b>	CCIR(B/G,I,L) EN MODEL:B/G ONLY PAL / SECAM / NTSC( Only in EXT mode ) A2/NICAM TOP/FLOF
<b>Receiving Frequency</b> <b>VHF</b> <b>UHF</b>	47MHz~ 470MHz 470MHz~862MHz
<b>Intermediate Frequency</b> <b>VIF Carrier</b> <b>SIF Carrier</b>	38.9MHz( B/G,I,L ) EN MODEL:B/G ONLY 33.4( 5.5MHz ),33.5(6.0MHz) EN MODEL: 5.5MHz ONLY
<b>Colour Sub Carrier Freq.</b> <b>PAL</b> <b>SECAM</b> <b>NTSC</b>	4.43MHz 4.0625MHz / 4.25MHz 3.58MHz / 4.43MHz
<b>Power Input</b> <b>Power Consumption</b>	AC 220V~240V , 50Hz 170W( Max ) /160W( Avg )
<b>Picture Tube</b> <b>High Voltage</b>	Visible size : 76cm, Measured diagonally 31.0Kv +1kV (at zero beam current) -1.5kV
<b>Speaker</b> <b>Audio Output</b>	φ 10cm round (4Ω) × 2 20W + 20W
<b>EXT-1/EXT-2/EXT-3</b> <b>(Input/Output)</b> <b>EXT4(Input)</b> <b>Video</b> <b>Audio(L/R)</b> <b>Aerial Input Term</b> <b>Headphone jack</b>	21-pin Euro connector( SCART socket ) 1Vp-p 75Ω ( RCA pin jack ) 500mVrms( -4dBs ), High Impedance ( RCA pin jack ) 75Ω unbalanced, Coaxial Stereo mini jack ( φ 3.5mm )
<b>Remote Control Unit</b>	RM-C791 AAA( R03 ) dry battery × 2

*Design & specification are subject to change without notice.*

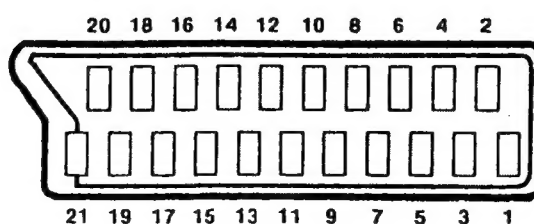
★ Manufactured under license from Dolby Laboratories Licensing Corporation.  
“Dolby” and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

## ■ 21-pin Euro connector (SCART socket) : EXT-1 / EXT-2 / EXT-3

(P-P= Peak to Peak, S-W= Sync tip to white peak, B-W= Blanking to white peak)

Pin No.	Signal Designation	Matching Value	EXT-1	EXT-2	EXT-3
1	AUDIO R output	500mVrms(Nominal), Low impedance	○ (TV OUT)	○ (LINE OUT)	NC
2	AUDIO R input	500mVrms(Nominal), High impedance	○	○	○
3	AUDIO L output	500mVrms(Nominal), Low impedance	○ (TV OUT)	○ (LINE OUT)	NC
4	AUDIO GND		○	○	○
5	GND (B)		○	○	○
6	AUDIO L input	500mVrms(Nominal), High impedance	○	○	○
7	B input	700mV <sub>B-W</sub> , 75Ω	○	NC	NC
8	FUNCTION SW (SLOW SW)	Low : 0-3V, High : 8-12V, High impedance	○	○	○
9	GND (G)		○	○	○
10	--		NC	--	NC
10	SCL3		--	○	--
11	G input	700mV <sub>B-W</sub> , 75Ω	○	NC	NC
12	--		NC	--	NC
12	SDA3		--	○	--
13	GND (R)		○	○	○
14	GND (Y <sub>S</sub> )		○	NC	NC
15	R / C input	R : 700mV <sub>B-W</sub> , 75Ω C : 300mV <sub>P-P</sub> , 75Ω	○ (only R)	○ (only C)	○ (only C)
16	Ys input	Low : 0 - 0.4, High : 1 - 3V, 75Ω	○	NC	NC
17	GND(VIDEO output)		○	○	○
18	GND(VIDEO input)		○	○	○
19	VIDEO output	1V <sub>S-W</sub> (Negative going sync), 75Ω	○ (TV)	○ (LINE OUT)	NC
20	VIDEO / Y input	1V <sub>S-W</sub> (Negative going sync), 75Ω	○	○	○
21	COMMON GND		○	○	○

[Pin assignment]



# SAFETY PRECAUTIONS

1. The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by ( $\Delta$ ) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
4. **Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**  
Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : ( $\perp$ ) side GND, the ISOLATED(NEUTRAL) : ( $\downarrow$ ) side GND and EARTH : ( $\oplus$ ) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time.  
If above note will not be kept, a fuse or any parts will be broken.
5. If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).
6. The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
7. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10k $\Omega$  2W resistor to the anode button.
8. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

## 9. Isolation Check

### (Safety for Electrical Shock Hazard)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

#### (1) Dielectric Strength Test

The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 3000V AC (r.m.s.) for a period of one second.

(... Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)

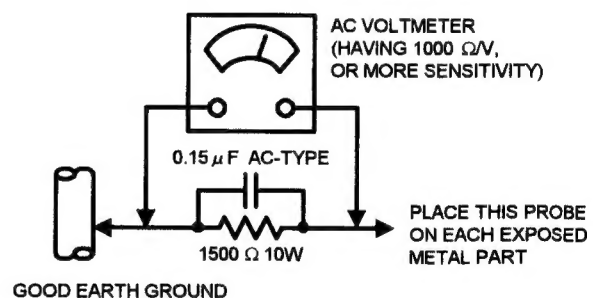
This method of test requires a test equipment not generally found in the service trade.

#### (2) Leakage Current Check

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).

##### ● Alternate Check Method

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500 $\Omega$  10W resistor paralleled by a 0.15 $\mu$ F AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).





# SPECIFIC SERVICE INSTRUCTIONS

## REPLACEMENT OF CHIP COMPONENT

### ■ CAUTIONS

1. Avoid heating for more than 3 seconds.
2. Do not rub the electrodes and the resist parts of the pattern.
3. When removing a chip part, melt the solder adequately.
4. Do not reuse a chip part after removing it.

### ■ SOLDERING IRON

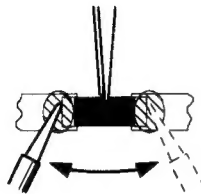
1. Use a high insulation soldering iron with a thin pointed end of it.
2. A 30w soldering iron is recommended for easily removing parts.

### ■ REPLACEMENT STEPS

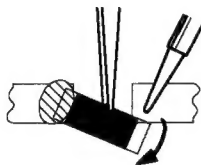
#### 1. How to remove Chip parts

##### ◆ Resistors, capacitors, etc

- (1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.



- (2) Shift with tweezers and remove the chip part.



##### ◆ Transistors, diodes, variable resistors, etc

- (1) Apply extra solder to each lead.



- (2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.

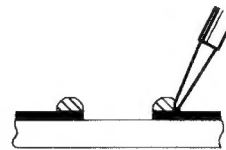


*Note : After removing the part, remove remaining solder from the pattern.*

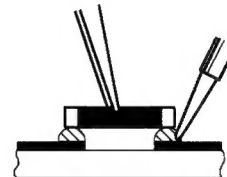
#### 2. How to install Chip parts

##### ◆ Resistors, capacitors, etc

- (1) Apply solder to the pattern as indicated in the figure.

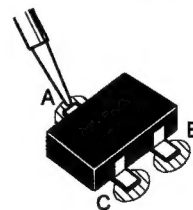


- (2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.

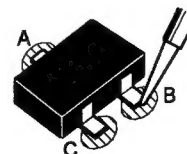


##### ◆ Transistors, diodes, variable resistors, etc

- (1) Apply solder to the pattern as indicated in the figure.
- (2) Grasp the chip part with tweezers and place it on the solder.
- (3) First solder lead A as indicated in the figure.

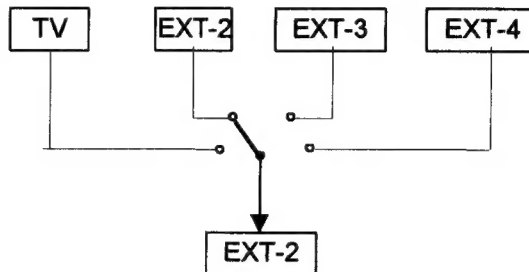


- (4) Then solder leads B and C.



## FEATURES

- By preference, users can select the picture size from PANORAMIC, REGULAR, FULL, 14:9 ZOOM, 16:9 ZOOM, 16:9 ZOOM SUB TITLE modes. When the TV unit received WSS picture signal, the picture can be changed to 16:9 ZOOM mode automatically.
- The TELETEXT SYSTEM has a built-in TOP and FLOF system.
- Thanks to the newly employed DSP control micro computer, users can select 3D-PHONIC, and enjoy Surround effect at each mode.
- Because this TV unit corresponds to multiplex broadcast, users can enjoy music programs and sporting events with live realism. In addition, BILINGUAL programs can be heard in their original language.
- In accordance with the brightness in a room, the brightness and/or contrast of the picture can be adjusted automatically to make the optimum picture which is easy on the eye.
- Users can make VTR dubbing of picture and sound by controlling the AV selector to select an optional source at the EXT-2 output shown in figure.



## DISASSEMBLY PROCEDURE

### REMOVING THE REAR COVER

1. Unplug the power cord.
2. Remove the 13 screws marked "A" as shown in the Fig. 1.
3. Withdraw the rear cover toward you.

### REMOVING THE CHASSIS

- After removing the rear cover.
1. Slightly raise the both sides of the chassis by hand and remove the two claws under the both sides of the chassis from the front cabinet.
  2. Withdraw the chassis backward.  
(If necessary, take off the wire clamp, connectors etc.)

### REMOVING THE AV TERMINAL BOARD

- After removing the rear cover.
1. Remove the 6 screws marked "B" as shown in the Fig. 1.
  2. While raising the claw marked "C", remove the top of the AV TERMINAL BOARD slightly in the direction of arrow "D" as shown in Fig. 2.

### REMOVING THE SPEAKER BOX

- After removing the rear cover.
1. Remove the 2 screws marked "E" as shown in Fig. 1.
  2. Follow the same steps when removing the other hand speaker box.

**NOTE :** When removing the screws marked "E" of the speaker box, remove the lower side screw first, and then remove the upper screw.

### CHECKING THE PW BOARD

To check the back side of the PW Board.

- 1) Pull out the chassis. (Refer to REMOVING THE CHASSIS).
- 2) Erect the chassis vertically so that you can easily check the back side of the PW Board.

#### [CAUTION]

- When erecting the chassis, be careful so that there will be no contacting with other PW Board.
- Before turning on power, make sure that the wire connector is properly connected.
- When conducting a check with power supplied, be sure to confirm that the CRT EARTH WIRE (BRAIDED ASS'Y) is connected to the CRT SOCKET PW board.

### WIRE CLAMPING AND CABLE TYING

1. Be sure to clamp the wire.
2. Never remove the cable tie used for tying the wires together. Should it be inadvertently removed, be sure to tie the wires with a new cable tie.

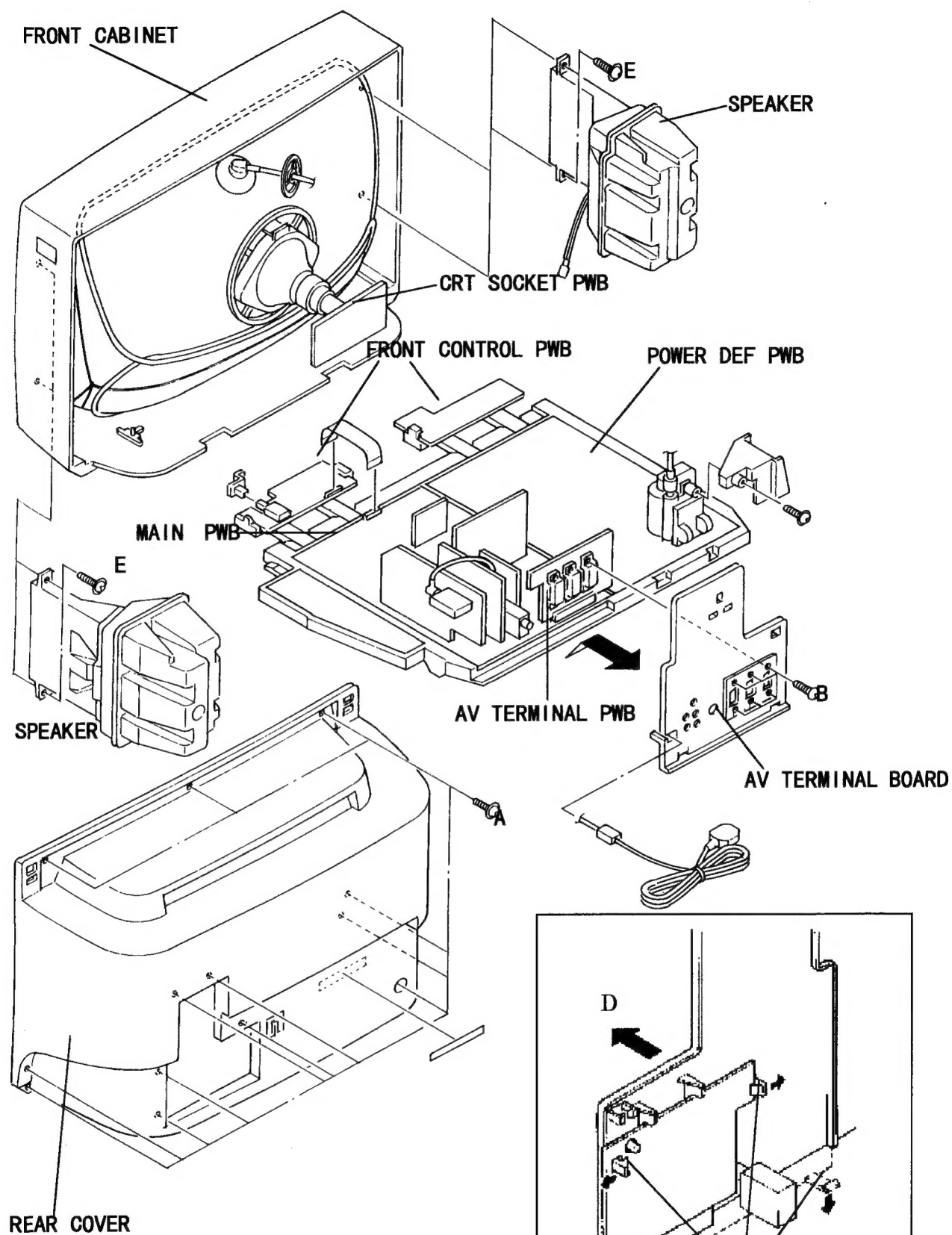


Fig. 1

Fig. 2

## REMOVING THE CRT

\*Replacement of the CRT should be performed by 2 or more persons.

- After removing the cover, chassis etc.,
- 1. Putting the CRT change table on soft cloth, the CRT change table should also be covered with such soft cloth (shown in Fig.3).
- 2. While keeping the surface of CRT down, mount the TV set on the CRT change table balanced will as shown in Fig.4.
- 3. Remove 4 screws marked by arrows with a box type screw driver as shown in Fig.4.
- Since the cabinet will drop when screws have been removed, be sure to support the cabinet with hands.
- 4. After 4 screws have been removed, put the cabinet slowly on cloth (At this time, be carefully so as not to damage the front surface of the cabinet) shown in Fig.5.
- The CRT should be assembled according to the opposite sequence of its dismantling steps.
- \* The CRT change table should preferably be smaller than the CRT surface, and its height be about 35cm.

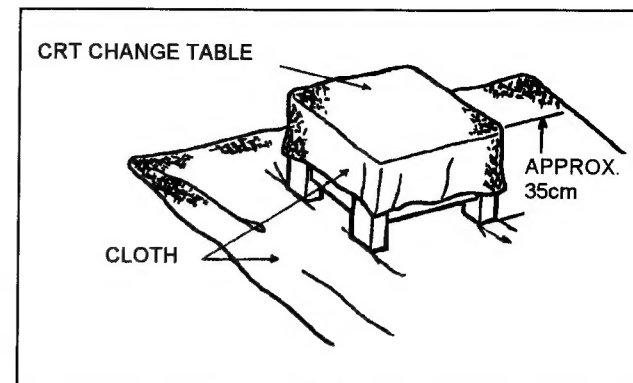


Fig. 3

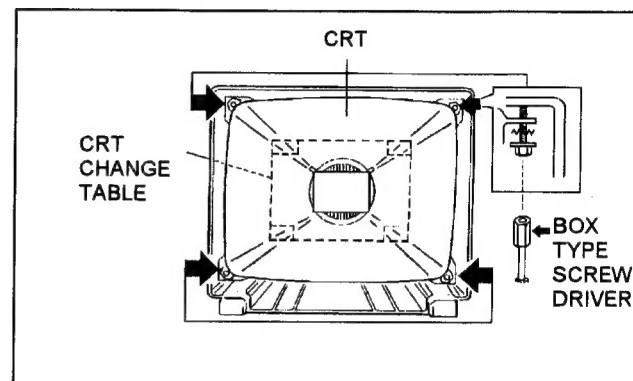


Fig. 4

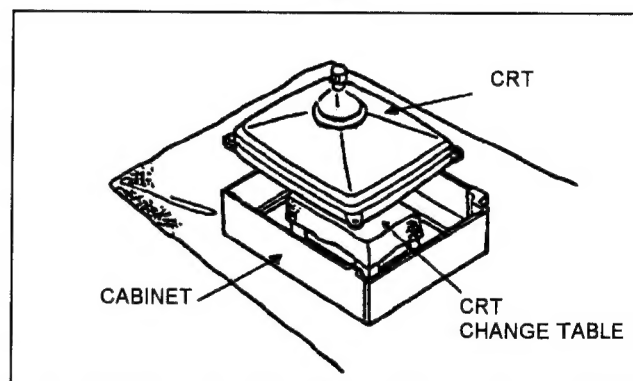


Fig. 5

## COATING OF SILICON GREASE FOR ELECTRICAL INSULATION ON THE CRT ANODE CAP SECTION.

- Subsequent to replacement of the CRT and HV transformer or repair of the anode cap, etc. by dismantling them, be sure to coat silicon grease for electrical insulation as shown in Fig.6.

Wipe around the anode button with clean and dry cloth. (Fig.6)

Coat silicon grease on the section around the anode button. At this time, take care so that any silicon greases dose not stick to the anode button. (Fig.7)

★ Silicon grease product No. KS - 650N

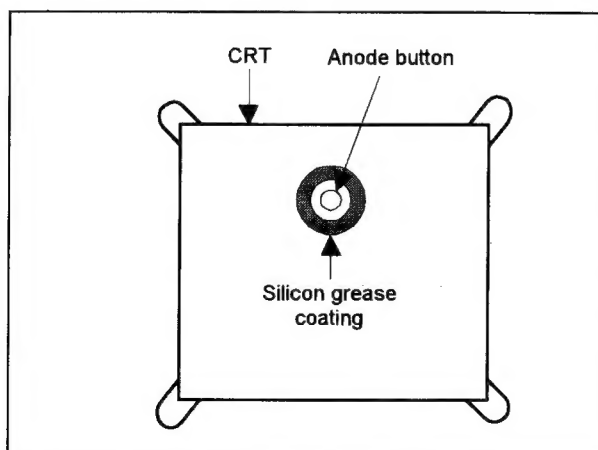


Fig. 6

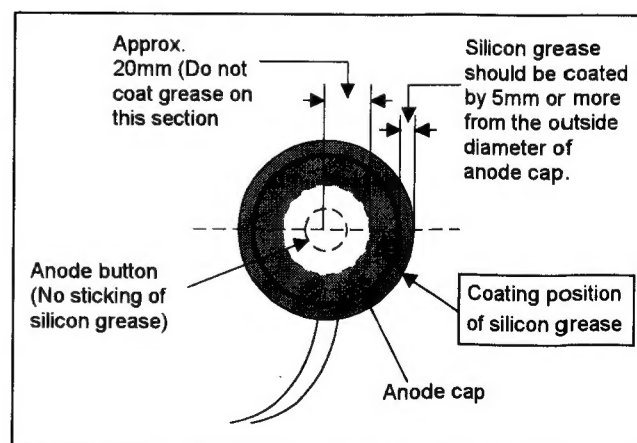


Fig. 7

## REPLACEMENT OF MEMORY ICs

### 1. Memory ICs

This TV use memory ICs (EEP-ROM IC). In the memory ICs, there are memorized data for correctly operating the video and deflection circuits. When replacing memory ICs, be sure to use ICs written with the initial values of data.

### 2. Procedure for replacing memory ICs

PROCEDURE	
(1) <b>Power off</b>	Switch the power off and unplug the power code from the outlet.
(2) <b>Replace ICs.</b>	Be sure to use memory ICs written with the initial data values.
(3) <b>Power on</b>	Plug the power code into the outlet and switch the power on.
(4) <b>Check and set SYSTEM CONSTANT SET:</b>	<ol style="list-style-type: none"> <li>1) Press the INFORMATION key and the MUTE key of the REMOTE CONTROL UNIT simultaneously.</li> <li>2) The SERVICE MENU screen of Fig. 1 will be displayed.</li> <li>3) While the SERVICE MENU is displayed, press the INFORMATION key and MUTE key simultaneously, and the SYSTEM CONSTANT SET screen of Fig. 2 will be displayed.</li> <li>4) Check the setting values of the SYSTEM CONSTANT SET of Table 1. If the value is different, select the setting item with the FUNCTION UP/DOWN key, and set the correct value with the FUNCTION +/- key.</li> <li>5) Press the MENU key to memorize the setting value.</li> <li>6) Press the INFORMATION key twice, and return to the normal screen.</li> </ol>
(5) <b>Setting of receive channels</b>	Set the receive channel. For setting, refer to the OPERATING INSTRUCTIONS.
(6) <b>User settings</b>	Check the user setting values of Table 2, and if setting value is different, set the correct value. For setting, refer to the OPERATING INSTRUCTIONS.
(7) <b>Setting of SERVICE MENU</b>	Verify the setting items of the <b>SERVICE MENU</b> of Table 3, and reset where necessary. For setting, refer to the SERVICE ADJUSTMENTS.

#### SERVICE MENU


SERVICE MENU	
1. IF	2. V/C
3. AUDIO	4. DEF
5. VSM PRESET	6. VPS
7. PIP	
8. AUTO PROGRAM (OFF)	
1-8 : SELECT  : EXIT	

Fig.1

#### SYSTEM CONSTANT SET








SYSTEM CONSTANT SET	
SOFT VER.=(V*.****)	
COUNTRY	:EP
INCH	:32
MODEL	:WP2
- +  : STORE	 : EXIT
JVC MB WIDE VOO	
M37207MF-XXXSP	

Fig.2  
[AV-32WP2EN]

#### NAME OF REMOTE CONTROL KEY

Names of key	key
INFORMATION	
MUTE	
MENU	
FUNCTION UP/DOWN	
FUNCTION +/-	

**SETTING VALUES OF SYSTEM CONSTANT SET (TABLE 1)**

Setting item	Setting content	Setting value	
		AV-32WP2EN	AV-32WP2EP
1. COUNTRY	▶ EN → EP → EK ◀	EN	EP
2. INCH	▶ 28 → 32 → 24 ◀	32	32
3. MODEL	▶ WP2 → WZ2 ◀	WP2	WP2

**USER SETTING VALUES (TABLE 2)**

Setting item		Setting value	Setting item		Setting value
SUB POWER		ON	PROLOGIC 3D PHONIC	MODE	CINEMA/SPORT
CHANNEL		1 POSITION		LEVEL	CENTER
CHANNEL PRESET		See;OPERATING INSTRUCTUONS.		TV/SPEAKER	L/R/C
VOLUME		Appropriate sound volume		VOLUME	MAX
TV / EXT		TV	DOLBY PRO LOGIC	MODE	NORMAL
DISPLAY		CHANNEL DISPLAY		TV SPEAKER	L/R/C
ZOOM MODE		REGULAR		TEST TONE	OFF
POWER BASS		OFF		VOLUME	MAX
PIP		OFF	INSTALL	LANGUAGE	ENGLISH
PICTURE FEATURE	LFR	OFF	EXT SOURCE	EXT SETTING	ID:NO INPUT S-IN:NO INPUT
	VNR	OFF		DUBBING	EXT-1→EXT-2
	4:3 AUTO ASPECT	PANORAMIC	FEATURES	SLEEP TIMER	OFF
	COLOR SYSTEM	TV:depend on PR EXT:AUTO		BLUE BACK	ON
	PIP POSITION	Right below		CHILD LOCK	ID NO.0000 all channel off
	MULTI PICTURE	12 PICTURES	PICTURE SETTING	TINT	COOL
	PICTURE TILT	CENTER		SETTING	RESET
BASS,TRE BALA	CENTER	ECO		OFF	
SOUND SETTING	SPEAKER	ON			
	HEAD PHONE VOLUME	20			
	HEAD PHONE OUTPUT	MAIN			
	HEAD PHONE TV SPEAKER	OFF			
	DIGITAL SRROUND		OFF		

**SERVICE MENU SETING ITEMS (TABLE 3)**

Setting item	Setting value	Setting item	Setting value
1. IF	1. VCO 2. DELAY POINT 3. L. V. LEVEL 4. ATT	4. DEF.	1. V-SHIFT 2. V-SLOPE 3. V-SIZE 4. H-CENT 5. H-SIZE 6. EW-PIN 7. EW-COR 8. TRAPEZ 9. V-S.CR 10. EHT-COMP 11. CLAMP
2. V / C	1. RGB BLK 2. R DRIVE 3. G DRIVE 4. B DRIVE 5. R LEVEL 6. G LEVEL 7. B LEVEL 8. BRIGHT 9. CONT. 10. COLOUR(PAL/SECAM/NTSC) 11. HUE 12. PEAK DRIVE 13. GAMMA 14. VCOF 15. RELC	5. VSM PRESET [ COOL NORMAL WARM	1. BRIGHT 2. CONT. 3. COLOUR 4. SHARP 5. HUE 6. R DRIVE 7. G DRIVE 8. B DRIVE 9. BASS 10. TREBLE
3. AUDIO / OSD (Do not adjust)	1. CONC LIMIT 2. A2 ID THR 3. JVC LOGO H 4. TEXT MONO H 5. TEXT MIX H	6. VPS (Do not adjust)	VPS
		7. PIP	1. MAIN BRIGHT 2. MAIN R-Y 3. MAIN B-Y 4. SUB BRIGHT 5. SUB R-Y 6. SUB B-Y 7. V-CENTER 8. H-CENTER
		8. AUTO PROGRAM (Do not adjust)	ON / OFF



# SERVICE ADJUSTMENT

## BEFORE STARTING SERVICE ADJUSTMENT

1. There are 2 ways of adjusting this TV: One is with the REMOTE CONTROL UNIT and the other is the conventional method using adjustment parts and components.
2. The setting (adjustment) using the REMOTE CONTROL UNIT is made on the basis of the initial setting values. The setting values which adjust the screen to the optimum condition can be different from the initial setting values.
3. Turn on the power of the TV and measuring instrument for warming up for at least 30 minutes before starting adjustment.
4. Make sure that connection is correctly made to AC power source.
5. If the receive or input signal is not specified, use the most appropriate signal for adjustment.
6. Never touch parts (such as variable resistors, transformers and condensers) not shown in the adjustment items of this service adjustment.

7. Preparation for adjustment (presetting):

Unless otherwise specified in the adjustment items, preset the following functions with the REMOTE CONTROL UNIT:

(1) PICTURE MODE (VSM)	COOL
(2) SLEEP TIMER	OFF
(3) DIGITAL SURROUND	OFF
(4) BALANCE	CENTER
(5) ECO	OFF
(6) ZOOM	REGULAR

## MEASURING INSTRUMENT AND FIXTURES

1. DC voltmeter (or digital voltmeter)
2. Oscilloscope
3. Signal generator (Pattern generator) [PAL/SECAM/NTSC]
4. Remote control unit

## ADJUSTMENT ITEMS

- Check of B1 voltage.
- Adjustment of FOCUS.
- IF circuit adjustment.
- VSM preset adjust setting.
- VIDEO / CHROMA circuit adjustment.
- DEFLECTION circuit adjustment.
- AUDIO circuit adjustment. (Do not adjust)

## BASIC OPERATION OF SERVICE MENU

### 1. TOOL OF SERVICE MENU OPERATION

Operate the SERVICE MENU with the REMOTE CONTROL UNIT.

### 2. SERVICE MENU ITEMS

With the SERVICE MENU, various settings (adjustments) can be made, and they are broadly classified in the following items of settings (adjustments):

- (1) **1. IF** ..... This mode adjusts the setting values of the IF circuit.
- (2) **2.V/C** ..... This mode adjusts the setting values of the VIDEO / CHROMA circuit.
- (3) **3.AUDIO / OSD** ..... This mode adjusts the setting values of the multiplicity SOUND circuit.
- (4) **4.DEF** ..... This mode adjusts the setting values of the DEFLECTION circuit for each aspect mode given below.
 

PANORAMIC	(50/60Hz)
REGULAR	(50/60Hz)
14:9 ZOOM	(50/60Hz)
16:9 ZOOM	(50/60Hz)
16:9 ZOOM SUB TITLE	(50/60Hz)
FULL	(50/60Hz)
- (5) **5.VSM PRSET** ..... This mode adjusts the initial setting values of COOL,NOMAL and WARM.  
(VSM : Video Status Memory)
- (6) **6.VPS** ..... This mode shows the monitor of the VPS and PDC. **(Do not adjust)**.  
(VPS : Video Program System, PDC : Program Delivery Code)
- (7) **7.PIP** ..... This mode adjusts the setting values of the PIP circuit.
- (8) **8.AUTO PROGRAM** ..... By turning the power switch on, you can get the state of AUTO PROGRAM. **(Do not adjust)**

### 3. BASIC OPERATION OF SERVICE MENU

#### (1) How to enter SERVICE MENU

Press the INFORMATION key and the MUTE key of the REMOTE CONTROL UNIT simultaneously, and the SERVICE MENU screen of Fig. 1 will be displayed.

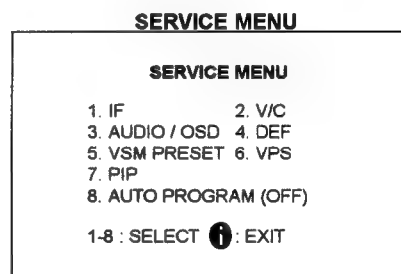


Fig.1

#### (2) Selection of SUB MENU SCREEN

Press one of keys 1~7 of the REMOTE CONTROL UNIT and select the SUB MENU SCREEN (See Fig. 3), form the SERVICE MENU.

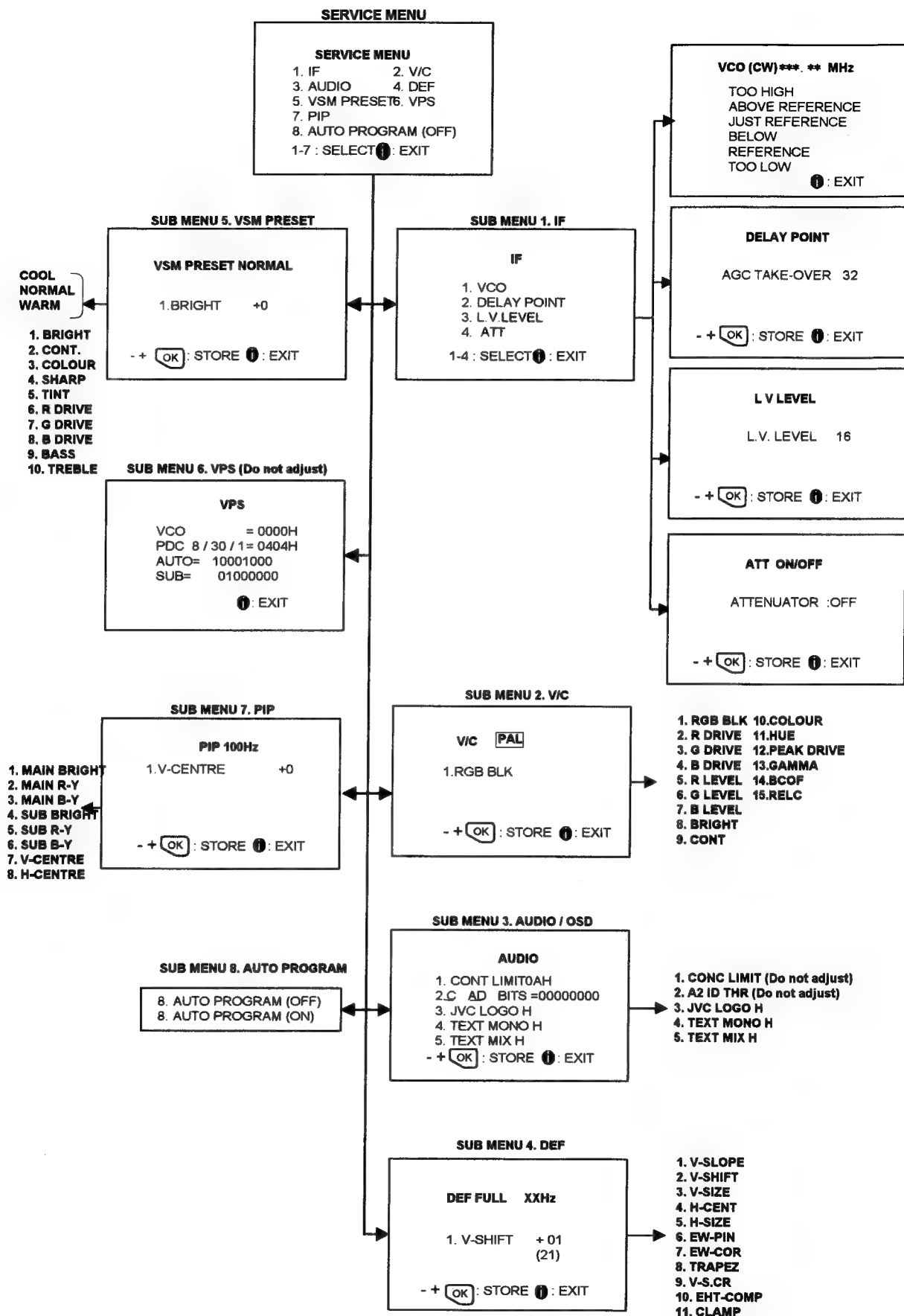
SERVICE MENU → SUB MENU

1. IF
2. V / C
3. AUDIO / OSD
4. DEF.
5. VSM PRESET
6. VPS
7. PIP
8. AUTO PROGRAM

#### NEME OF REMOTE CONTOROL KEY

Names of key	key
INFORMATION	
MUTE	
MENU	
FUNCTION UP/DOWN	
FUNCTION +/-	

Fig.2



**Fig. 3 SUB MENU SCREEN**

### (3) Method of Setting

#### 1) Method of Setting 1.IF

##### [1. VCO]

- ① 1 Key ..... Select 1.IF.
- ② 1 Key ..... Select 1.VCO
- ③ The VCO (CW) screen will be displayed in yellow when the AFC voltage is at a certain level and in blue when it is at other levels.
- ④ INFORMATION Key ..... As you press this twice, you will return to the **SERVICE MENU**.

##### [2. DELAY POINT]

- ① 1 Key ..... Select 1.IF.
- ② 2 Key ..... Select 2.DELAY POINT.
- ③ FUNCTION +/- ..... Set (adjust) the setting values of the setting items.
- ④ MENU Key ..... Memorize the set value.  
(Before storing the setting values in memory, do not press the CH, TV, POWER ON / OFF keys - if you do, the values will not be stored in memory.)
- ⑤ INFORMATION Key ..... When this is pressed twice, you will return to the **SERVICE MENU**.

#### 2) Method of setting 2.V/C, 3.AUDIO, 4.DEF, 5.VSM PRESET and 7.PIP.

- ① 2~5, 7 Key ..... Select one from 2. V/C, 3. AUDIO, 4. DEF, 5. VSM PRESET and 7.PIP.
- ② FUNCTION UP/DOWN Key ..... Select setting items.
- ③ FUNCTION +/- ..... Set (adjust) the setting values of the setting items.  
(When 1.RGB BLK of 2.V/C is selected, press the FUNCTION-/ + key, and the whole will change to a black picture. Press the 2 key, and the screen will return to the original screen.)
- ④ MENU Key ..... Memorize the setting value.  
(Before storing the setting values in memory, do not press the CH, TV, POWER ON / OFF key - if you do, the values will not be stored in memory.)
- ⑤ INFORMATION Key ..... Return to the **SERVICE MENU** screen.

#### 3) Method of setting 6.VPS and 8.AUTO PROGRAM.

- 6.VPS ..... This mode displayed monitor of VPS systems. **Do not adjust**
- 8.AUTO PROGRAM ..... When the MAIN POWER is turned on with the state of AUTO PROGRAM ON, you get a mode that initializes every existing set value including language selection. Because this mode is set at the factory upon completion of the adjustment, you need not to use it for service. **Do not adjust in this mode.**

### (4) Release of SERVICE MENU

- 1) After completing the setting, return to the **SERVICE MENU**, then again press the **INFORMATION** key.

## POWER SUPPLY CHECK

Item	Measuring instrument	Test point	Adjustment part	Description
Check of B1 voltage	Signal generator DC voltmeter	TP-91(B1) TP-E [X connector in POWER DEF PWB]		<ol style="list-style-type: none"> <li>1. Receive a whole black signal.</li> <li>2. Connect a DC voltmeter to TP-91(B1) and TP-E.</li> <li>3. Make sure that the voltage is <math>DC141.4 \pm 2.0V</math>.</li> </ol>

## FOCUS ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of FOCUS	Signal generator		FOCUS VR [In HVT]	<ol style="list-style-type: none"> <li>1. By turning the black VR FOCUS 2, adjust the picture so that the 5th vertical line from the left side of the cross-hatch picture becomes thinnest.</li> <li>2. By turning the red VR FOCUS 1, adjust the picture so that the 3rd horizontal line from the upper side of the cross-hatch picture becomes uniform at the line center and its periphery.</li> <li>3. Carry out adjustment by repeating the steps 2 and 3 above.</li> <li>4. Make sure that when the screen is darkened, the lines remain in good focus.</li> </ol>

The diagram illustrates the focus adjustment process. The upper portion displays a cross-hatch grid pattern. An arrow labeled 'FOCUS 1' points to the 3rd horizontal line from the top, and an arrow labeled 'FOCUS 2' points to the 5th vertical line from the left. The lower portion shows a schematic of the internal focus control circuit, including the 'RED FOCUS 1' and 'BLACK FOCUS 2' controls, and the 'SCREEN'.

# IF CIRCUIT ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description																											
Adjustment of VCO (MAIN)	Remote control unit		P. CW TRANSF. (T050) P.L-VL CW TRIM C (C052) [In IF PWB]	<ul style="list-style-type: none"><li>Do not make any adjustment unless the adjustment is out of way and you cannot get correct PICTURE.</li><li>1. Select 1.IF from the SERVICE MENU.</li><li>2. Press 1 key and select 1.VCO.</li><li>3. Select a receivable broadcast channel with the CHANNEL key.</li><li>4. Turn the core of P. CW TRANSF. until the colour of the characters TOO HIGH displayed on the screen changes from blue to <u>Yellow</u>. (Step 1)</li><li>5. Turn the core of P. CW TRANSF. until the colour of the characters TOO LOW changes from blue to <u>Yellow</u>. (Step 2)</li><li>6. Then slowly turn back the core of P. CW TRANSF. until the colour of the characters JUST REFERENCE changes from blue to <u>Yellow</u>. (Step 3)</li><li>7. In the district SECAM L broadcast channel with the CHANNEL key and adjust the P.L-VL CW TRIM. C in same manner as for above step. And necessary, readjust P. CW. TRANSF.</li><li>8. Press the INFORMATION key three times to return to normal screen.</li><li>9. Perform CHANNEL PRESET again, and make sure that each broadcast is being received properly.</li></ul>																											
<div><div><div>VCO(CW) ***. ** MHz TOO HIGH ABOVE REFERENCE JUST REFERENCE BELOW REFERENCE TOO LOW <b>i</b> : EXIT</div><div><div>tv</div><div>YELLOW</div></div></div></div> <table><tr><th rowspan="2">Screen display</th><th colspan="3">Step</th></tr><tr><th>1</th><th>→2</th><th>→ 3</th></tr><tr><td>TOO HIGH</td><td><u>Yellow</u></td><td>→ Blue</td><td>→ Blue</td></tr><tr><td>ABOVE REFERENCE</td><td>Blue</td><td>→ Blue</td><td>→ Blue</td></tr><tr><td>JUST REFERENCE</td><td>Blue</td><td>→ Blue</td><td>→ <u>Yellow</u></td></tr><tr><td>BELOW REFERENCE</td><td>Blue</td><td>→ Blue</td><td>→ Blue</td></tr><tr><td>TOO LOW</td><td>Blue</td><td>→ <u>Yellow</u></td><td>→ Blue</td></tr></table>					Screen display	Step			1	→2	→ 3	TOO HIGH	<u>Yellow</u>	→ Blue	→ Blue	ABOVE REFERENCE	Blue	→ Blue	→ Blue	JUST REFERENCE	Blue	→ Blue	→ <u>Yellow</u>	BELOW REFERENCE	Blue	→ Blue	→ Blue	TOO LOW	Blue	→ <u>Yellow</u>	→ Blue
Screen display	Step																														
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BELOW REFERENCE	Blue	→ Blue	→ Blue																												
TOO LOW	Blue	→ <u>Yellow</u>	→ Blue																												
Adjustment of DELAY POINT	Remote control unit		DELAY POINT (AGC TAKE-OVER)	<ul style="list-style-type: none"><li>1. Receive a black and white signal (colour off).</li><li>2. Select 1.IF from the SERVICE MENU.</li><li>3. Select 2.DELAY POINT by pressing the 2 key on the remote control.</li><li>4. Adjust the FUNCTION - or + key until video noise disappears.</li><li>5. Press the MENU key and memorize the set value.</li><li>6. Turn to other channels and make sure that there are no irregularities.</li></ul>																											
<table><tr><th>Setting item (Adjustment item)</th><th>Variable range</th><th>Initial setting value</th></tr><tr><td>DELAY POINT (AGC TAKE-OVER)</td><td>0~63</td><td>30</td></tr></table>					Setting item (Adjustment item)	Variable range	Initial setting value	DELAY POINT (AGC TAKE-OVER)	0~63	30																					
Setting item (Adjustment item)	Variable range	Initial setting value																													
DELAY POINT (AGC TAKE-OVER)	0~63	30																													
Adjustment of L,V LEVEL (EP MODEL ONLY)	Remote control unit Oscilloscope		L, V LEVEL	<ul style="list-style-type: none"><li>1. Receive a color bar signal. (SECAM-L,75% white)</li><li>2. Connect the oscilloscope to EXT-1 PIN 19.</li><li>3. Select 1.IF from the service Menu.</li><li>4. Select 3.LV LEVEL by pressing the 3 key on the remote control.</li><li>5. Turn to other channels and make sure that there are no irregularities.</li></ul>																											

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of VCO (SUB)	Remote control unit		P. CW TRANSF. (T103) P.L-VL CW TRIM C (C122) [In P&P PWB]	<ul style="list-style-type: none"> <li>Do not make any adjustment unless the adjustment is out of way and you cannot get correct PICTURE.</li> </ul> <ol style="list-style-type: none"> <li>Select 1.IF from the SERVICE MENU.</li> <li>Press 1 key and select 1.VCO.</li> <li>Press OK key and select " VCO (CW) = SUB ".</li> <li>Select a receivable broadcast channel with the CHANNEL key.</li> <li>Turn the core of P. CW TRANSF. until the colour of the characters TOO HIGH displayed on the screen changes from blue to <u>Yellow</u>. (Step 1)</li> <li>Turn the core of P. CW TRANSF. until the colour of the characters TOO LOW changes from blue to <u>Yellow</u>. (Step 2)</li> <li>Then slowly turn back the core of P. CW TRANSF. until the colour of the characters JUST REFERENCE changes from blue to <u>Yellow</u>. (Step 3)</li> <li>In the district SECAM L broadcast channel with the CHANNEL key and adjust the P.L-VL CW TRIM. C in same manner as for above step. And necessary, readjust P. CW. TRANSF.</li> <li>Press the INFORMATION key three times to return to normal screen.</li> <li>Perform CHANNEL PRESET again, and make sure that each broadcast is being received properly.</li> </ol>
Adjustment of DELAY POINT (SUB)	Remote control unit		NOISE VR (R137)	<ol style="list-style-type: none"> <li>Set to 2 screen mode.</li> <li>Receive black and white signal on the right screen.</li> <li>Adjust the NOISE VR (R137) to eliminate noise from the right screen.</li> </ol>



**VSM PRESET SETTING**

Item	Measuring instrument	Test point	Adjustment part	Description																																								
Setting of VSM PRESET ADJUST	Remote control unit		1. BRIGHT 2. CONT. 3. COLOUR 4. SHARP 5. HUE 6. R DRIVE 7. G DRIVE 8. B DRIVE 9. BASS 10. TREBLE	1. Select COOL with the MENU key of the remote control unit. 2. Select 5.VSM PRESET from the SERVICE MENU. 3. Adjust the FUNCTION UP/DOWN and -/+ key to bring the set values of 1.BRIGHT ~ 10.TREBLE to the values shown in the table. 4. Press the MENU key and memorize the set value. 5. Respectively select the VSM PRESET mode for REGULAR and WARM, and make similar adjustment as in 3 above. 6. Press the MENU key and memorize the set value. * Refer to OPERATING INSTRUCTIONS for the PICTURE MODE.																																								
			<table><tr><th><div>VSM preset mode</div><div>Setting item</div></th><th>COOL</th><th>REGULAR</th><th>WARM</th></tr><tr><td>1. BRIGHT SETTING VALUE</td><td>+0</td><td>+0</td><td>+0</td></tr><tr><td>2. CONT. SETTING VALUE</td><td>+13</td><td>+10</td><td>+2</td></tr><tr><td>3. COLOUR SETTING VALUE</td><td>+2</td><td>+0</td><td>-2</td></tr><tr><td>4. SHARP SETTING VALUE</td><td>+0</td><td>+0</td><td>-2</td></tr><tr><td>5. HUE SETTING VALUE</td><td>+0</td><td>+0</td><td>+0</td></tr><tr><td>6. R DRIVE SETTING VALUE</td><td>-5</td><td>+0</td><td>+14</td></tr><tr><td>7. G DRIVE SETTING VALUE</td><td>-11</td><td>+0</td><td>+5</td></tr><tr><td>8. B DRIVE SETTING VALUE</td><td>+0</td><td>+0</td><td>-6</td></tr><tr><td>9. BASS SETTING VALUE</td><td>+0</td><td>+0</td><td>0</td></tr><tr><td>10.TREBLE SETTING VALUE</td><td>+0</td><td>+0</td><td>0</td></tr></table> <div>SETTING VALUES OF VSM PRESET</div>	<div>VSM preset mode</div> <div>Setting item</div>	COOL	REGULAR	WARM	1. BRIGHT SETTING VALUE	+0	+0	+0	2. CONT. SETTING VALUE	+13	+10	+2	3. COLOUR SETTING VALUE	+2	+0	-2	4. SHARP SETTING VALUE	+0	+0	-2	5. HUE SETTING VALUE	+0	+0	+0	6. R DRIVE SETTING VALUE	-5	+0	+14	7. G DRIVE SETTING VALUE	-11	+0	+5	8. B DRIVE SETTING VALUE	+0	+0	-6	9. BASS SETTING VALUE	+0	+0	0	10.TREBLE SETTING VALUE
<div>VSM preset mode</div> <div>Setting item</div>	COOL	REGULAR	WARM																																									
1. BRIGHT SETTING VALUE	+0	+0	+0																																									
2. CONT. SETTING VALUE	+13	+10	+2																																									
3. COLOUR SETTING VALUE	+2	+0	-2																																									
4. SHARP SETTING VALUE	+0	+0	-2																																									
5. HUE SETTING VALUE	+0	+0	+0																																									
6. R DRIVE SETTING VALUE	-5	+0	+14																																									
7. G DRIVE SETTING VALUE	-11	+0	+5																																									
8. B DRIVE SETTING VALUE	+0	+0	-6																																									
9. BASS SETTING VALUE	+0	+0	0																																									
10.TREBLE SETTING VALUE	+0	+0	0																																									

## VIDEO/CHROMA CIRCUIT ADJUSTMENT

The setting (adjustment) using the REMOTE CONTROL UNIT is made on the basis of the initial setting values.  
The setting values which adjust the screen to the optimum condition can be different from the initial setting values.

Setting Item (Adjustment Item )	Initial setting value
1.RGB BLK	—
2.R.DRIVE	+12
3.G.DRIVE	+2
4.B.DRIVE	+0
5.R.LEVEL	+0
6.G.LEVEL	+0
7.B.LEVEL	+0
8.BRIGHT	-10
9.CONTRAST	-5

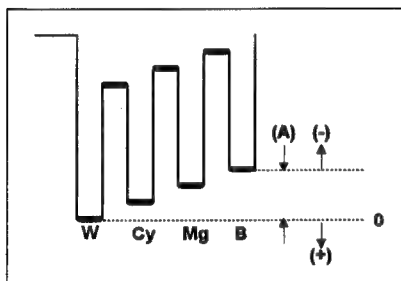
Colour system Setting item	Initial setting value	
	PAL/ SECAM	NTSC 3.58 NTSC 4.43
10.COLOUR	-4/0	0
11.HUE	—	0
12.PEAK DRIVE	+5	—
13.GAMMA	-21	—
14.VCOF	+0	—
15.RELC	+0	—

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of WHITE BALANCE (MAIN)	Signal generator  Remote control unit		2.R DRIVE 3.G RIVE 5.R LEVEL 6.G LEVEL 7.B LEVEL	<ul style="list-style-type: none"> <li>● Set the PICTURE MODE to COOL.</li> </ul> <ol style="list-style-type: none"> <li>1. Receive a black and white signal(colour off).</li> <li>2. Select 2. V/C from the SERVICE MENU.</li> <li>3. Modify 2. R DRIVE and 3.G DRIVE data to adjust the white balance ( high light )</li> <li>4. Modify 5. R LEVEL, 6. G LEVEL and 7. B LEVEL data to adjust the white balance of low light. Components.</li> <li>5. Press the MENU key and memorize the set value.</li> </ol>
Adjustment of BRIGHTNESS AND WHITE BALANCE IN PIP	Signal generator  Remote control unit		1.MAIN BRIGHT 2.MAIN R-Y 3.MAIN B-Y 4.SUB BRIGHT 5.SUB R-Y 6.SUB B-Y	<ol style="list-style-type: none"> <li>1. Receive a black and white signal(colour off).</li> <li>2. Select 7.PIP from the SERVICE MENU.</li> <li>3. Select 1.MAIN BRIGHT. So small picture appears in the big picture.</li> <li>4. Adjust brightness of small picture to equal brightness of big picture by 1.MAIN BRIGHT.</li> <li>5. Select 2.MAIN R-Y and 3.MAIN B-Y. And adjust low-light of small picture to equal low-light of big picture</li> <li>6. Enter 4.SUB BRIGHT. It changes to the 2 screen mode. Adjust brightness of right picture to equal brightness of left picture.</li> <li>7. Select 5.SUB R-Y and 6.SUB B-Y. And adjust low-light of right picture to equal low-light of left picture</li> <li>8. 7.V-CENTRE should be "-1" at 50Hz , "+1" at 60Hz.</li> <li>9. 8.H-CENTRE should be 0.</li> <li>10.Press the MENU key and memorize the set value.</li> </ol>

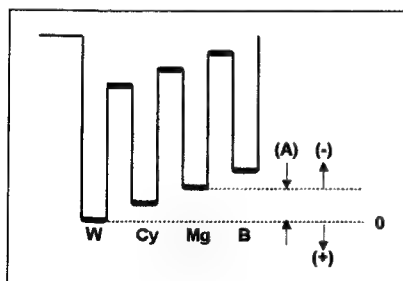
Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of SUB BRIGHT	Remote control unit		8.BRIGHT	<ol style="list-style-type: none"> <li>1. Receive any broadcast.</li> <li>2. Select 2.V/C from the SERVICE MENU.</li> <li>3. Select 8.BRIGHT with the FUNCTION UP/DOWN key.</li> <li>4. Set the initial setting value with the FUNCTION +/- key.</li> <li>5. If the brightness is not the best with the initial setting value, make fine adjustment until you get the best brightness.</li> <li>6. Press the MENU key and memorize the set value.</li> </ol>
Adjustment of SUB CONT.	Remote control unit		9.CONT.	<ol style="list-style-type: none"> <li>1. Receive any broadcast.</li> <li>2. Select 2.V/C from the SERVICE MENU.</li> <li>3. Select 9.CONT with the FUNCTION UP/DOWN key.</li> <li>4. Set the initial setting value with the FUNCTION - or + key.</li> <li>5. If the contrast is not the best with the initial setting value, make fine adjustment until you get the best contrast.</li> <li>6. Press the MENU key and memorize the set value.</li> </ol>

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of SUB COLOUR I	Remote control unit		10.COLOUR (PAL~NTSC)	[Method of adjustment without using measuring instrument]
			PAL COLOUR	(PAL COLOUR) 1. Receive PAL broadcast. 2. Select 2.V/C from the SERVICE MENU. 3. Select 10.COLOUR with the FUNCTION UP/DOWN key. 4. Set the initial setting value for PAL COLOUR with the FUNCTION - or + key. 5. If the colour is not the best with the initial set value, make fine adjustment until you get the best colour. 6. Press the MENU key and memorize the set value.
			SECAM COLOUR	(SECAM COLOUR) 1. Receive a SECAM broadcast. Make fine adjustment of SECAM COLOUR in the same manner as for above.
			NTSC COLOUR	(NTSC 3.58 COLOUR) 1. Input a NTSC 3.58MHz COMPOSITE VIDEO signal from the EXT terminal. 2. Make similar fine adjustment of NTSC 3.58 COLOUR in the same manner as for above.  (NTSC 4.43 COLOUR) 1. When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of SUB COLOUR II	Signal generator  Oscilloscope  Remote control unit	TP-47B TP-E [CRT SOCKET PWB]	10.COLOUR (PAL~NTSC)	[Method of adjustment using measuring instrument]
			PAL COLOUR	(PAL COLOUR) 1. Receive a PAL full field colour bar signal(75% white). 2. Select 2.V/C from the SERVICE MENU. 3. Select 5.COLOUR with the FUNCTION UP/DOWN key. 4. Set the initial setting value of PAL COLOUR with the FUNCTION - or + key. 5. Connect the oscilloscope between TP-47B and TP-E 6. Adjust PAL COLOUR and bring the value of (A) in the illustration to 8V (voltage difference between white (w) and blue (B)). 7. Press the MENU key and memorize the setting value.
			SECAM COLOUR	(SECAM COLOUR) 1. Receive a SECAM full field colour bar signal(75% white). 2. Set the initial setting value of SECAM COLOUR with the FUNCTION +/- key. 3. Adjust SECAM COLOUR and bring the value of (A) of the illustration to 6V. 4. Press the MENU key and memorize the setting value.
			NTSC COLOUR	(NTSC 3.58 COLOUR) 1. Input a NTSC 3.58MHz COMPOSITE VIDEO signal (full field colour bar with 75% white) from the EXT terminal. 2. Set the initial setting value of NTSC 3.58 COLOUR with the FUNCTION +/- key. 3. Adjust NTSC 3.58 COLOUR and bring the value of (A) of the illustration to 2V(W~B). 4. Press the MENU key and memorize the setting value.  (NTSC 4.43 COLOUR) 1. When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.



Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of SUB TINT I	Remote control unit		11.HUE	[Method of adjustment without using measuring instrument]
			NTSC 3.58 TINT	[NTSC 3.58 TINT] 1. Input a NTSC 3.58MHz COMPOSITE VIDEO signal (full field colour bar with 75% white) from the EXT terminal. 2. Select 2.V/C from the SERVICE MENU. 3. Select 11.HUE with the FUNCTION UP/DOWN key. 4. Set the initial setting value of NTSC 3.58 TINT with the FUNCTION +/- key. 5. If you cannot get the best tint with the initial setting value, make fine adjustment until you get the best tint. 6. Press the MENU key and memorize the set value.
			NTSC 4.43 TINT	[NTSC 4.43 TINT] 1. When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.
Adjustment of SUB TINT II	Signal generator  Oscilloscope  Remote control unit	TP-47B TP-E( ) [CRT SOCKET PWB]	11.HUE ⚡	[Method of adjustment using measuring instrument]
			NTSC 3.58 TINT	[NTSC 3.58 TINT] 1. Input a NTSC 3.58MHz COMPOSITE VIDEO signal (full field colour bar with 75% white) from the EXT terminal. 2. Select 2.V/C from the SERVICE MENU. 3. Select 11.HUE with the FUNCTION UP/DOWN key. 4. Set the initial setting value of NTSC 3.58 TINT with the FUNCTION - or + key. 5. Connect the oscilloscope between TP-47B and TP-E 6. Adjust NTSC 3.58 TINT to bring the value of (A) in the illustration to 0V (voltage difference between white (W) and magenta(Mg)). 7. Press the MENU key and memorize the setting value
			NTSC 4.43 TINT	[NTSC 4.43 TINT] 1. When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.



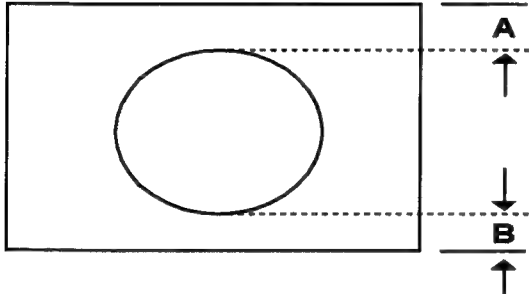
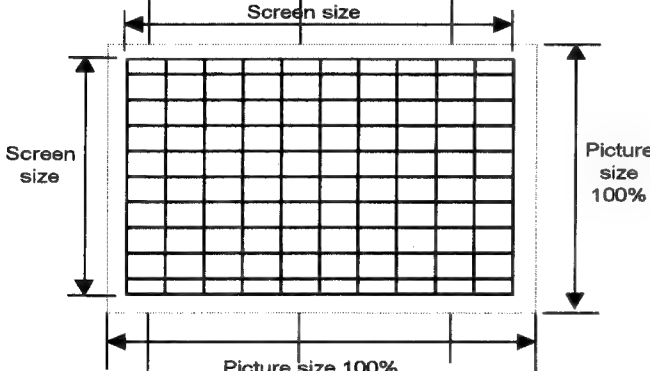
## DEFLECTION CIRCUIT ADJUSTMENT

There are 3 modes of the adjustment ( 1 ) 50Hz mode ( ①PANORAMIC ②FULL ③SUBTITLE ), ( 2 ) 60Hz mode ( each aspect mode ) ..... depending upon the kind of signals ( vertical frequency 50Hz / 60Hz ).

- When the 50Hz PANORAMIC mode has been established, the setting of other modes will be done automatically. However, if the picture quality has not been optimized, adjust each mode again, respectively.
- The adjustment using the remote control unit is made on the basis of the initial setting values.
- The setting values which adjust the screen to the optimum condition can be different from the initial setting values.
- Regular and Zoom switching is conducted not by the Deflection circuit, but by the 100 Hz PWB. Therefore, the deflection system cannot be adjusted in these modes.

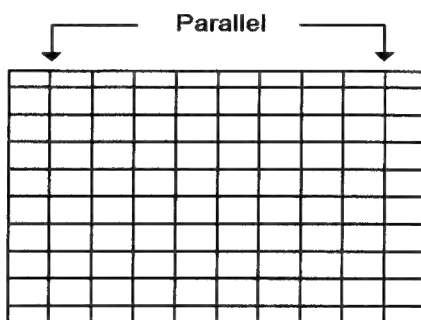
Setting item	Adjustment name	Initial setting value					
		FULL		PANORAMIC		SUBTITLE	
		50Hz	60Hz	50Hz	60Hz	50Hz	60Hz
1.V- SHIFT	Vertical center	3	0	0	0	0	0
2.V- SLOPE	Vertical def. Start position	14	-7	2	-9	0	2
3.V-SIZE	Vertical height	33	2	-1	-1	20	-1
4.H-CENT	Horizontal center	23	-3	0	-1	0	-2
5.H-SIZE	Horizontal width	23	-1	8	-1	-1	0
6.EW-PIN	Side pin correction	42	0	-3	0	3	0
7.EW-COR	Side pin four corner correction	36	0	-10	-8	-7	0
8.TRAPEZ	Trapezoidal distortion correction	3	0	-1	-1	0	1
9.V-S.CR	Vertical height correction	8	0	12	0	5	0
10.EHT-COMP	Size Regulation	30	0	0	0	0	0
11.CLAMP	CLAMP Position	0	0	0	0	0	0



Item	Measuring instrument	Test point	Adjustment part	Description												
Adjustment of V-SHIFT and V-SLOPE	Signal generator		1.V- SHIFT	<p>[FULL mode]</p> <ol style="list-style-type: none"><li>1. Receive a circle pattern signal of vertical frequency 50Hz.</li><li>2. Select 4.DEF from the SERVICE MENU.</li><li>3. Select 1.V-SHIFT with the FUNCTION UP/DOWN key.</li><li>4. Adjust V-SHIFT to make <b>A = B</b>.</li><li>5. IF it is not enough to adjust the "V=SHIFT", choose "2.V=SLOPE" and adjust to make <b>A = B</b>.</li><li>6. Press the MENU key and memorize the set value.</li></ol>												
	Remote control unit															
																
Adjustment of V-SIZE			3.V. SIZE	<ol style="list-style-type: none"><li>7. Receive a cross-hatch signal.</li><li>8. Select 3.V-SIZE and set the initial setting value.</li><li>9. Adjust V-SIZE and make sure that the vertical screen size of the picture size is in the bellow table.</li><li>10.Press the MENU key and memorize the set value.</li><li>11.Input a NTSC VIDEO signal from the EXT terminal, and make sure that the vertical screen size of the RANORAMIC mode is in the table below.</li><li>12.Press the MENU key and memorize the set value.</li></ol>												
																
<table><tr><th>MODE</th><th>FULL</th><th>PANORAMIC</th><th>16:9 ZOOM SUB TITLE</th></tr><tr><td>SCREEN TOP</td><td>92%</td><td>87%</td><td>70%</td></tr><tr><td>SCREEN BOTTOM</td><td>92%</td><td>87%</td><td>83%</td></tr></table>					MODE	FULL	PANORAMIC	16:9 ZOOM SUB TITLE	SCREEN TOP	92%	87%	70%	SCREEN BOTTOM	92%	87%	83%
MODE	FULL	PANORAMIC	16:9 ZOOM SUB TITLE													
SCREEN TOP	92%	87%	70%													
SCREEN BOTTOM	92%	87%	83%													
[ SCREEN SIZE ]																

Item	Measuring instrument	Test point	Adjustment part	Description								
Adjustment of H.CENTER			4.H-CENT.	13.Receive a circle pattern signal. 14.Select 4.H-CENT and set the initial setting value. 15.Adjust H-CENT to make C=D. 16.Press the MENU key and memorize the set value.								
<div><div><div><div><div>C</div><div>D</div></div><div><div><div>90%</div><div>90%</div></div><div>L</div></div></div></div></div>												
Adjustment of H.SIZE			5.H-SIZE	17.Receive a cross-hatch signal. 18.Select 5.H-SIZE and set the initial setting value. 19.Adjust H-SIZE and make sure that the horizontal screen size of the picture size is in the bellow table. 20.Press the MENU key and memorize the set value. 21.Input a NTSC VIDEO signal from the EXT terminal, and make sure that the horizontal screen size of the PANORAMIC mode is in the table below. 22.Press the MENU key and memorize the set value.								
<table><tr><td>ASPECT MODE</td><td>FULL</td><td>PANORAMIC</td><td>16:9 ZOOM SUB TITLE</td></tr><tr><td>H SIZE</td><td>92%</td><td>95%</td><td>92%</td></tr></table> <div>[ SCREEN SIZE ]</div>					ASPECT MODE	FULL	PANORAMIC	16:9 ZOOM SUB TITLE	H SIZE	92%	95%	92%
ASPECT MODE	FULL	PANORAMIC	16:9 ZOOM SUB TITLE									
H SIZE	92%	95%	92%									
Adjustment of EW-PIN			6.EW-PIN	23.Select 6.EW-PIN and set the initial setting value 24.Adjust EW-PIN and make the 2nd.vertical lines at the left and right edges of the screen straight. Also make sure that the 3rd vertical lines are straight. 25.Press the MENU key and memorize the set value.								
<div><div><div>Straight</div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div>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Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of EW-COR			7.EW-COR	<p>★ No alignment, but adjust this mode if result of no alignment is too bad.</p> <p>26. Select 7.EW-COR and set the initial setting value.</p> <p>27. Adjust EW-COR and make the vertical lines at the four corners of the screen straight.</p> <p>28. Press the MENU key and memorize the set value.</p>
Adjustment of TRAPEZ			8.TRAPEZ	<p>[50Hz PANORAMIC mode]</p> <p>29. Receive a cross-hatch signal of vertical frequency 50Hz.</p> <p>30. Select 4.DEF from the SERVICE MENU.</p> <p>31. Select 8.TRAPEZ with the FUNCTION UP/DOWN key.</p> <p>32. Set the initial setting value of TRAPEZ with the FUNCTION - or + key.</p> <p>33. Adjust TRAPEZ and bring the VERTICAL lines at the right and left edges of the screen parallel .</p> <p>34. Press the MENU key and memorize the set value.</p>
Adjustment of V-S.CR			9.V-S.CR	<p>★ No alignment, but adjust this mode if result of no alignment is too bad.</p> <p>35. Select 9.V-S.CR and set the initial setting value.</p> <p>36. Adjust each item to get exact square of cross-hatch pattern.</p> <p>37. Press the MENU key and memorize the set value.</p>
				<p>At first the adjustment in 50Hz-PANORAMIC mode should be done, then the data for the other zoom mode is corrected in the respective value at the same time. And confirm the deflection adjustment initial setting value in 60Hz( NTSC EXT mode ) PANORAMIC mode. If the adjustment in 50Hz each zoom mode has been done and stored, the data for the same aspect modes in 60Hz is corrected in the respective value. Only the data for the other aspect mode in 60Hz is corrected for itself.</p>



## AUDIO CIRCUIT ADJUSTMENT

### 3. AUDIO / OSD

Setting item	Variable range	fixed value
1. CONC LIMIT <i>(Do not adjust)</i>	00H~FFH	0AH
2. A2 ID THR <i>(Do not adjust)</i>	00H~FFH	19H

# OSD horizontal position

Item	Test point	Adjustment part	Description
JVC LOGO H		3.JVC LOGO H	<div>1. Select 3.AUDIO / OSD from SERVICE MENU.</div> <div>2. Select 3.JVC LOGO H with the FUNCTION -/+ key.</div> <div>3. Confirm that JVC LOGO H=00H</div> <div>4. Press the MENU Key, and memorize the set values.</div>
TEXT MONO H		4.TEXT MONO H	<div>1. Select 3.AUDIO / OSD from SERVICE MENU.</div> <div>2. Select 4.TEXT MONO H with the FUNCTION -/+ key.</div> <div>3. Push text key to get a picture of "TEXT-MONO H".</div> <div>4. Push "SUBPAGE" key. It gets a picture as shown left.</div> <div>5. Adjust the value of the distance "d" as shown left with the FUNCTION UP/DOWN key.</div> <div>Push "SUBPAGE" key to check adjustment every adjust.</div> <div>6. Press the MENU Key, and memorize the set values.</div>

00

01

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•

•

18

19

100

00:00:00

INDEX

d

MODEL	d
ALL MODELS	5~20mm

| TEXT MIX H |  | 5.TEXT MIX H | 1. Select 3.AUDIO / OSD from SERVICE MENU.  2. Select 5.TEXT MIX H with the FUNCTION -/+ key.  3. Push text key to get a picture of "TEXT&PICTURE".  4. Push "SUBPAGE" key. It gets a picture as shown left.  5. Adjust the value of the distance "d" as shown left with the FUNCTION UP/DOWN key.  Push "SUBPAGE" key to check adjustment every adjust.  6. Press the MENU Key, and memorize the set values. |

00

01

•

•

•

•

•

•

18

19

100

00:00:00

INDEX

d

MODEL	d
WP MODELS	9~14mm

AV-32WP2EN  
AV-32WP2EP

# PARTS LIST

## CAUTION

- The parts identified by the  $\triangle$  symbol are important for the safety . Whenever replacing these parts, be sure to use specified ones to secure the safety .
  - The parts not indicated in this Parts List and those which are filled with lines — in the Parts No. columns will not be supplied .
  - P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied .
  - As a rule, the resistors and capacitors which are indicated as shown in "HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS" are not shown in the list of the parts on the board .
- When ordering the service parts, confirm the resistance/rated power, capacitance/rated voltage, and type of the parts, then order by the part No. indicated according to "HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS"

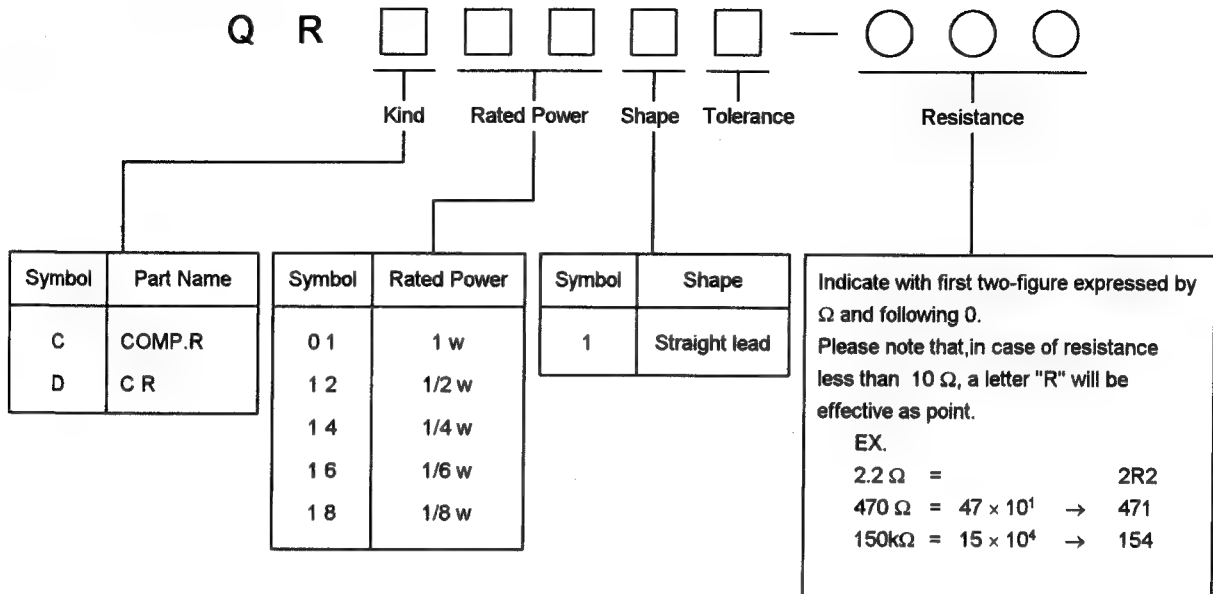
## ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
C R	Carbon Resistor	C CAP.	Ceramic Capacitor
F R	Fusible Resistor	E CAP.	Electrolytic Capacitor
P R	Plate Resistor	M CAP.	Mylar Capacitor
V R	Variable Resistor	HV CAP.	High Voltage Capacitor
HV R	High Voltage Resistor	MF CAP.	Metalized Film Capacitor
MF R	Metal Film Resistor	MM CAP.	Metalized Mylar Capacitor
MG R	Metal Glazed Resistor	MP CAP.	Metalized Polystyrol Capacitor
MP R	Metal Plate Resistor	PP CAP.	Polypropylene Capacitor
OM R	Metal Oxide Film Resistor	PS CAP.	Polystyrol Capacitor
CMF R	Coating Metal Film Resistor	TF CAP.	Thin Film Capacitor
UNF R	Non-Flammable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH V R	Chip Variable Resistor	TAN. CAP.	Tantalum Capacitor
CH MG R	Chip Metal Glazed Resistor	CH C CAP.	Chip Ceramic Capacitor
COMP. R	Composition Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

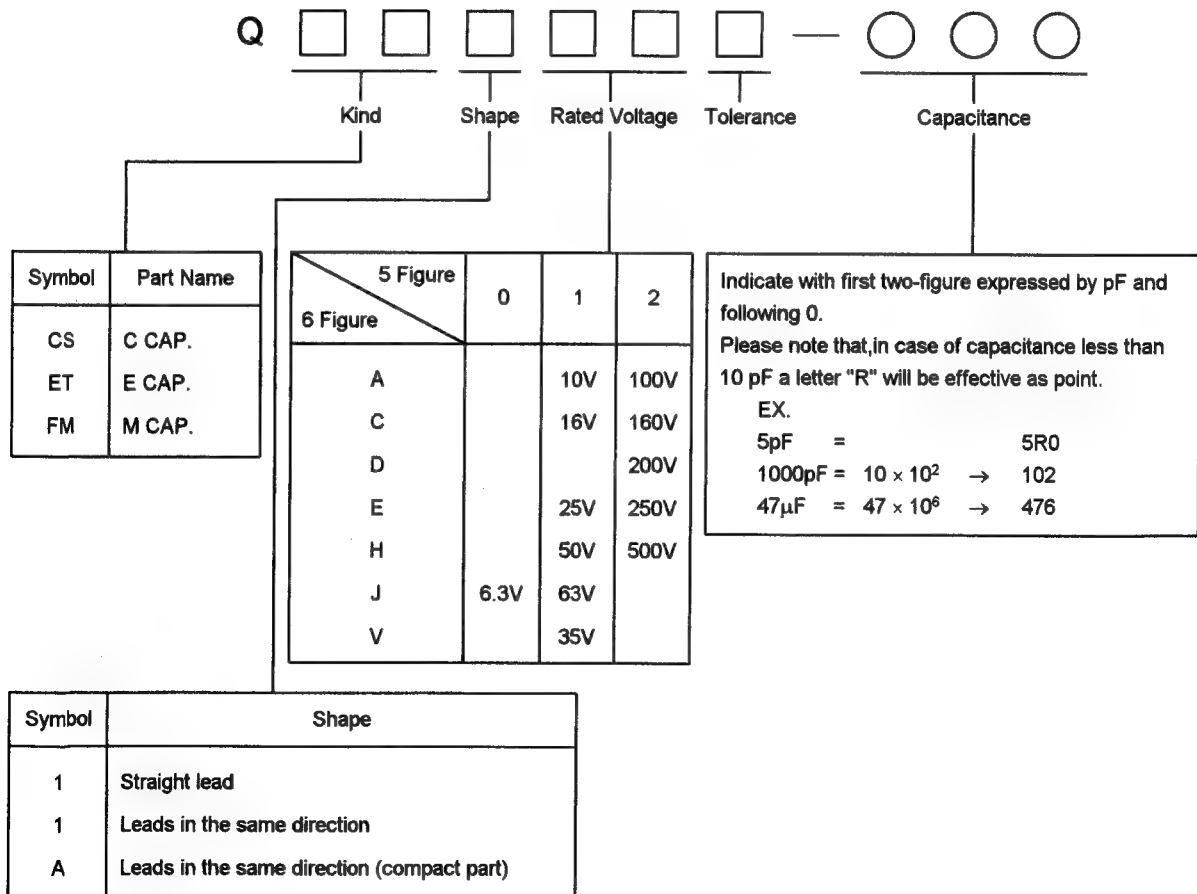
TOLERANCES									
F	G	J	K	M	N	R	H	Z	P
$\pm 1\%$	$\pm 2\%$	$\pm 5\%$	$\pm 10\%$	$\pm 20\%$	$\pm 30\%$	+ 30% - 10%	+ 50% - 10%	+ 80% - 20%	+ 100% - 0%

## HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS

### ■ RESISTOR



### ■ CAPACITOR





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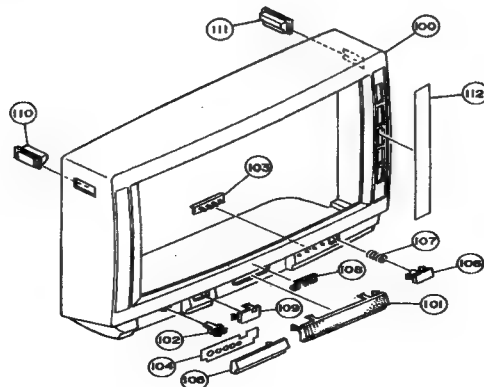
## USING P.W. BOARD & REMOTE CONTROL UNIT

P.W.B ASS'Y \ Model	AV-32WP2EN(A)	AV-32WP2EP(A)
MAIN P.W.B	SMB-1001B-U2	←
POWER DEF P.W.B	SMB-2001B-U2	←
CRT SOCKET P.W.B	SMB-3001B-U2	←
AUDIO P.W.B	SMB-6001B-U2	←
FRONT CONTROL P.W.B	SMB-8001B-U2	←
SUB TEXT P.W.B	SMB-1111B-U2	←
DOLBY P.W.B	SMB0D002B-U2	←
P&P P.W.B	SMB0P001B-U2	SMB0P701B-U2
100Hz P.W.B	SMB0Z001B-U2	←
AV TERMINAL P.W.B	SMB0J001B-U2	←
IF P.W.B	SMB0F701B-U2	←
AUTO ASPECT MODULE P.W.B	SJF0W001A(U)	←
REMOTE CONTROL UNIT	RM-C791-1E	←

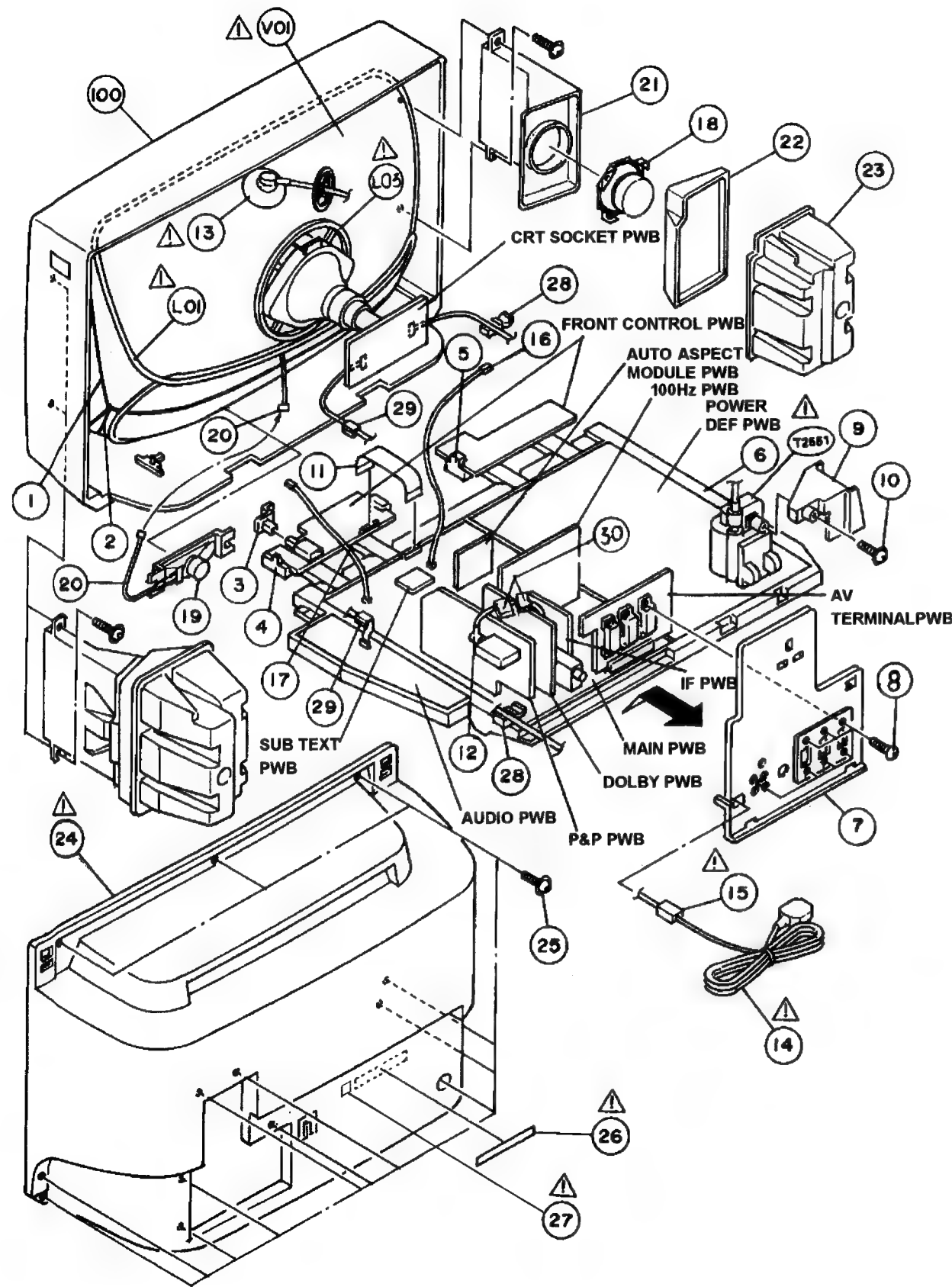
## EXPLODED VIEW PARTS LIST

△ Ref. No.	Part No.	Part Name	Description	Local
△ V01	W76ESF031X44	ITC TUBE (C)	V01	*
△ L01	CELD062-001J2	DEGAUSSING COIL	L01	*
L03	CELD904-001	ROTATION COIL	L03	*
△ T2551	CETH021-00AJ1	HVT (SERVICE)	T2551	*
1	CHGB0029-0C	BRAIDED ASSY		*
2	CHGB0017-0B	BRAIDED SUB ASSY	× 2	*
3	CM36311-001	KNOB CAP		*
4	CM12925-001-E	CONTROL BASE		*
5	CM12925-002-E	CONTROL BASE		*
6	CM12923-A01-E	CHASSIS BASE		*
7	CM12924-C01-E	AV TERM BASE		*
8	SBSB3012M	TAPPING SCREW	× 7	*
9	CM23076-B01-E	TRANSF. HOLDER		*
10	GBSA4016N	TAPPING SCREW	× 3	*
11	CHFB125-12BD	FFC WIRE		*
12	CHGY0031-0B-YS	ANTENNA CABLE		*
△ 13	CE41950-001J1	ANODE CABLE ASSY		*
△ 14	AEEMP001-185	POWER CORD		*
△ 15	CM46618-A01-E	POWER CORD CLAMP		*
16	CHGS0075-AA	S. P WIRE ASSY		*
17	CHGS0076-0A	S. P WIRE ASSY		*
18	CEBSF10P-05KJ6	SPEAKER	× 2 SP01/02	*
19	CEBSF10D-04KJ6	SPEAKER		*
20	CHGS0091-0A	S. P WIRE ASSY		*
21	2528MXSP-SZE-E	DOVE SPEAKER	× 2	*
22	CM12921-001-E	DOVE ADAPTER	× 2	*
23	CM12922-001-E	DOVE BOX	× 2	*
△ 24	CM12737-003-E	REAR COVER		*
25	GBSA4016N	TAPPING SCREW	× 13	*
△ 26	LC20094-001A-U	RATING LABEL	AV-32EP2EP (A)	*
△ 26	LC20093-001A-U	RATING LABEL	AV-32WP2EN (A)	*
△ 27	LC20092-001A-U	RATING LABEL	AV-32WP2EN (A) ONLY	*
28	QQR0778-001	CORE FILTER	× 2	*
29	QQR0490-001	NOISE FILTER	× 2	*
30	CE41355-00B	CORE ASSY	× 2	*
100	CM12587-A0N-E	FRONT CABINET AS	Include NO. 101~112	*
101	CM12928-D01-E	SPEAKER GRILL		*
102	CM48229-00A	DOOR LATCH		*
103	CM36223-002-H	L. E. D. LENS		*
104	CM36857-001	OPERATION SHEET		*
105	CM23131-A01	DOOR		*
106	CM36225-010	POWER KNOB	(SERVICE)	*
107	CM35235-003-H	SPRING		*
108	CM48125-001	JVC MARK		*
109	CM48076-002-H	C. D. S. WINDOW		*
110	CM35865-00U	INSULATOR ASSY L	(SERVICE)	*
111	CM35865-00V	INSULATOR ASSY R	(SERVICE)	*
112	CM36172-00A-S	SPEAKER NET	× 2	*

## EXPLODED VIEW



EXPLODED VIEW



PRINTED WIRING BOARD PARTS LIST

MAIN PW BOARD ASS'Y (SMB-1001B-U2)

△ Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R1001	QRD12CJ-474SX	C R	470k Ω 1/2W J	*
R1206	QRG019J-101S	OM R	100 Ω 1W J	*
R1229	QRD123J-181SX	C R	180 Ω 1/2W J	*
R1231	QRG019J-101S	OM R	100 Ω 1W J	*
R1748	QRB069J-103	NET. R		*
R1798-99	QRD12CJ-820SX	C R	82 Ω 1/2W J	*
R1809	QRD12CJ-2R2SX	C R	2.2 Ω 1/2W J	*
CAPACITOR				
C1001	QCZ0120-104MZ	C CAP.	0.1 μF 25V Z	*
C1002	QETC1HM-107Z	E CAP.	100 μF 50V M	*
C1003	QCZ0120-104MZ	C CAP.	0.1 μF 25V Z	*
C1004	QETN1CM-107Z	E CAP.	100 μF 16V M	*
C1005	QCZ0120-104MZ	C CAP.	0.1 μF 25V Z	*
C1006	QETN1CM-227Z	E CAP.	220 μF 16V M	*
C1008	QETN1HM-106Z	E CAP.	10 μF 50V M	*
C1011	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C1012	QCZ0120-104MZ	C CAP.	0.1 μF 25V Z	*
C1201	QETN1CM-227Z	E CAP.	220 μF 16V M	*
C1203-04	QETN1HM-105Z	E CAP.	1 μF 50V M	*
C1205-06	QETN1HM-335Z	E CAP.	3.3 μF 50V M	*
C1207	QETN1CM-227Z	E CAP.	220 μF 16V M	*
C1209	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C1210	QETN1CM-477Z	E CAP.	470 μF 16V M	*
C1212-13	QETN1HM-105Z	E CAP.	1 μF 50V M	*
C1214-15	QETN1HM-335Z	E CAP.	3.3 μF 50V M	*
C1216-17	QETN1HM-105Z	E CAP.	1 μF 50V M	*
C1218-19	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C1220	QETN1HM-105Z	E CAP.	1 μF 50V M	*
C1221-22	QETN1CM-107Z	E CAP.	100 μF 16V M	*
C1223-24	QETN1HM-105Z	E CAP.	1 μF 50V M	*
C1231-32	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C1301	QETN1CM-227Z	E CAP.	220 μF 16V M	*
C1302	QCZ0120-104MZ	C CAP.	0.1 μF 25V Z	*
C1304	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C1305	QETN1HM-226Z	E CAP.	22 μF 50V M	*
C1306	QFLC1HJ-223MZ	M CAP.	0.022 μF 50V J	*
C1307-08	QETN1HM-105Z	E CAP.	1 μF 50V M	*
C1311-13	QCZ0120-104MZ	C CAP.	0.1 μF 25V Z	*
C1315	QFV71HJ-474MZ	TF CAP.	0.47 μF 50V J	*
C1316	QCZ0120-104MZ	C CAP.	0.1 μF 25V Z	*
C1317	QFV71HJ-154MZ	TF CAP.	0.15 μF 50V J	*
C1318	QCZ0120-104MZ	C CAP.	0.1 μF 25V Z	*
C1320	QCZ0120-104MZ	C CAP.	0.1 μF 25V Z	*
C1321-22	QCT25CH-120Z	C CAP.	12 pF 50V J	*
C1323	QCZ0120-104MZ	C CAP.	0.1 μF 25V Z	*
C1325-26	QCZ0120-104MZ	C CAP.	0.1 μF 25V Z	*
C1327	QETN1CM-227Z	E CAP.	220 μF 16V M	*
C1328-32	QCZ0120-104MZ	C CAP.	0.1 μF 25V Z	*
C1341	QEN61HM-105Z	BP E CAP.	1 μF 50V M	*
C1348	QCZ0120-104MZ	C CAP.	0.1 μF 25V Z	*
C1350-52	QCZ0120-104MZ	C CAP.	0.1 μF 25V Z	*
C1353-55	QFV71HJ-224MZ	TF CAP.	0.22 μF 50V J	*
C1357	QETN1HM-105Z	E CAP.	1 μF 50V M	*
C1358	QETN1HM-475Z	E CAP.	4.7 μF 50V M	*
C1359	QETN1HM-105Z	E CAP.	1 μF 50V M	*
C1360	QETN1HM-335Z	E CAP.	3.3 μF 50V M	*
C1363	QETN1CM-107Z	E CAP.	100 μF 16V M	*
C1365	QEZO106-228R	E CAP.	2200 μH 10V M	*
C1367-69	QCZ0120-104MZ	C CAP.	0.1 μF 25V Z	*
C1375	QETN1CM-107Z	E CAP.	100 μF 16V M	*
C1610-11	QCT25CH-2R0Z	C CAP.	2 pF 50V J	*
C1612	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C1615	QETN1HM-106Z	E CAP.	10 μF 50V M	*
C1616	QCZ0120-104MZ	C CAP.	0.1 μF 25V Z	*

△ Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR				
C1617	QETN1HM-105Z	E CAP.	1 $\mu$ F 50V M	*
C1623-24	QETN1HM-105Z	E CAP.	1 $\mu$ F 50V M	*
C1625	QCZ0120-104MZ	C CAP.	0.1 $\mu$ F 25V Z	*
C1626	QETN1HM-106Z	E CAP.	10 $\mu$ F 50V M	*
C1627	QETN1HM-105Z	E CAP.	1 $\mu$ F 50V M	*
C1629-30	QETN1HM-105Z	E CAP.	1 $\mu$ F 50V M	*
C1631	QETN1HM-106Z	E CAP.	10 $\mu$ F 50V M	*
C1632	QCZ0120-104MZ	C CAP.	0.1 $\mu$ F 25V Z	*
C1633	QETN1HM-106Z	E CAP.	10 $\mu$ F 50V M	*
C1645	QETN1HM-106Z	E CAP.	10 $\mu$ F 50V M	*
C1646	QCZ0120-104MZ	C CAP.	0.1 $\mu$ F 25V Z	*
C1647	QETN1HM-106Z	E CAP.	10 $\mu$ F 50V M	*
C1649	QETN1HM-106Z	E CAP.	10 $\mu$ F 50V M	*
C1660	QFLC1HJ-333MZ	M CAP.	0.033 $\mu$ F 50V J	*
C1703	QCZ0120-104MZ	C CAP.	0.1 $\mu$ F 25V Z	*
C1704	QETN1AM-107Z	E CAP.	100 $\mu$ F 10V M	*
C1705-06	QCT25CH-3R0Z	C CAP.	3 pF 50V J	*
C1707	QCZ0120-104MZ	C CAP.	0.1 $\mu$ F 25V Z	*
C1708	QFLC1HJ-333MZ	M CAP.	0.033 $\mu$ F 50V J	*
C1709	QCZ0120-104MZ	C CAP.	0.1 $\mu$ F 25V Z	*
C1710	QETN1EM-476Z	E CAP.	47 $\mu$ F 25V M	*
C1711	QCZ0120-104MZ	C CAP.	0.1 $\mu$ F 25V Z	*
C1712	QFLC1HJ-333MZ	M CAP.	0.033 $\mu$ F 50V J	*
C1713	QCZ0120-104MZ	C CAP.	0.1 $\mu$ F 25V Z	*
C1714	QETN1HM-474Z	E CAP.	0.47 $\mu$ F 50V M	*
C1715	QETN1CM-476Z	E CAP.	47 $\mu$ F 16V M	*
C1716	QCZ0120-104MZ	C CAP.	0.1 $\mu$ F 25V Z	*
C1717	QETN1HM-105Z	E CAP.	1 $\mu$ F 50V M	*
C1751	QFLC1HJ-563MZ	M CAP.	0.056 $\mu$ F 50V J	*
C1752	QFV71HJ-224MZ	TF CAP.	0.22 $\mu$ F 50V J	*
C1754	QCZ0120-104MZ	C CAP.	0.1 $\mu$ F 25V Z	*
C1756-57	QCZ0120-104MZ	C CAP.	0.1 $\mu$ F 25V Z	*
C1758	QETN1AM-227Z	E CAP.	220 $\mu$ F 10V M	*
C1759	QCZ0120-104MZ	C CAP.	0.1 $\mu$ F 25V Z	*
C1760-61	QCT25CH-150Z	C CAP.	15 pF 50V J	*
C1762	QCZ0120-104MZ	C CAP.	0.1 $\mu$ F 25V Z	*
C1763	QETN1CM-476Z	E CAP.	47 $\mu$ F 16V M	*
C1764	QCZ0120-104MZ	C CAP.	0.1 $\mu$ F 25V Z	*
C1766-68	QCZ0120-104MZ	C CAP.	0.1 $\mu$ F 25V Z	*
C1769-71	QETN1HM-106Z	E CAP.	10 $\mu$ F 50V M	*
C1772	QETN1CM-476Z	E CAP.	47 $\mu$ F 16V M	*
C1773	QETN1CM-107Z	E CAP.	100 $\mu$ F 16V M	*
C1776	QCZ0120-104MZ	C CAP.	0.1 $\mu$ F 25V Z	*
C1780	QFLC1HJ-104MZ	M CAP.	0.1 $\mu$ F 50V J	*
C1781	QCZ0120-104MZ	C CAP.	0.1 $\mu$ F 25V Z	*
C1782	QFLC1HJ-223MZ	M CAP.	0.022 $\mu$ F 50V J	*
C1801	QETN1EM-107Z	E CAP.	100 $\mu$ F 25V M	*
C1802-03	QETN1HM-106Z	E CAP.	10 $\mu$ F 50V M	*
C1805	QETN1EM-107Z	E CAP.	100 $\mu$ F 25V M	*
C1806	QEN61HM-106Z	BP E CAP.	10 $\mu$ F 50V M	*
C1807	QFV71HJ-124MZ	TF CAP.	0.12 $\mu$ F 50V J	*
C1809-10	QETN1CM-108Z	E CAP.	1000 $\mu$ F 16V M	*
COIL				
L1001-02	CELP026-8R2Z	PEAKING COIL	8.2 $\mu$ H	*
L1003	CELP026-221Z	PEAKING COIL	220 $\mu$ H	*
L1601	CELP027-220Z	PEAKING COIL	22 $\mu$ H	*
L1602	CELP027-180Z	PEAKING COIL	18 $\mu$ H	*
L1611-12	CELC005-2R5J7	CHOKE COIL	2.5 $\mu$ H	*
L1701	CELP026-4R7Z	PEAKING COIL	4.7 $\mu$ H	*
L1702	CELP026-8R2Z	PEAKING COIL	8.2 $\mu$ H	*
L1752	QRD161J-OR0Y	C R	0 $\Omega$ 1/6W J	*
L1753	CELP026-4R7Z	PEAKING COIL	4.7 $\mu$ H	*
L1791-92	CELP026-8R2Z	PEAKING COIL	8.2 $\mu$ H	*

△ Symbol No.	Part No.	Part Name	Description	Local
DIODE				
D1201-11	MTZJ13 (B)-T2	ZENER DIODE		*
D1212-13	1SS133-T2	SI. DIODE		*
D1214-15	MTZJ13 (B)-T2	ZENER DIODE		*
D1343	1SS133-T2	SI. DIODE		*
D1345-48	1SS133-T2	SI. DIODE		*
D1349	MTZJ6. 2 (B)-T2	ZENER DIODE		*
D1350-53	1SS133-T2	SI. DIODE		*
D1356	1SS146-T2	SI. DIODE		*
D1357-58	1SS133-T2	SI. DIODE		*
D1701-02	1SS133-T2	SI. DIODE		*
D1704	1SS146-T2	SI. DIODE		*
D1705	1SS133-T2	SI. DIODE		*
D1710-11	1SS133-T2	SI. DIODE		*
D1751-53	1SS133-T2	SI. DIODE		*
D1754-58	MTZJ6. 2 (B)-T2	ZENER DIODE		*
D1801-02	1SS133-T2	SI. DIODE		*
D1803	MTZJ6. 8 (A)-T2	ZENER DIODE		*
D1804	1SS133-T2	SI. DIODE		*
TRANSISTOR				
Q1201-05	2PC1815 (YG)-T	SI. TRANSISTOR		*
Q1206-07	DTC323TS-T	DIGI. TRANSISTOR		*
Q1208	2PA1015 (YG)-T	SI. TRANSISTOR		*
Q1209	2PC1815 (YG)-T	SI. TRANSISTOR		*
Q1211-12	2PA1015 (YG)-T	SI. TRANSISTOR		*
Q1213-14	2PC1815 (YG)-T	SI. TRANSISTOR		*
Q1215-16	DTC323TS-T	DIGI. TRANSISTOR		*
Q1217	2PA1015 (YG)-T	SI. TRANSISTOR		*
Q1301	2PA1015 (YG)-T	SI. TRANSISTOR		*
Q1302	2PC1815 (YG)-T	SI. TRANSISTOR		*
Q1303-04	2PA1015 (YG)-T	SI. TRANSISTOR		*
Q1342	DTC144ES-T	DIGI. TRANSISTOR		*
Q1343-44	2PC1815 (YG)-T	SI. TRANSISTOR		*
Q1345	DTC124ESA-T	DIGI. TRANSISTOR		*
Q1346	2PC1815 (YG)-T	SI. TRANSISTOR		*
Q1349	2PC1815 (YG)-T	SI. TRANSISTOR		*
Q1610	2PA1015 (YG)-T	SI. TRANSISTOR		*
Q1611	DTC323TS-T	DIGI. TRANSISTOR		*
Q1613	2PC1815 (YG)-T	SI. TRANSISTOR		*
Q1701-04	2PC1815 (YG)-T	SI. TRANSISTOR		*
Q1752	2PA1015 (YG)-T	SI. TRANSISTOR		*
Q1753	DTC124ES-T	DIGI. TRANSISTOR		*
Q1791-94	2PC1815 (YG)-T	SI. TRANSISTOR		*
Q1801	2PA1015 (YG)-T	SI. TRANSISTOR		*
Q1802	DTC323TS-T	DIGI. TRANSISTOR		*
I C				
IC1301	CXA1545AS	I. C (MONO-ANA)		
IC1303	TDA9143	I C		
IC1304	TDA4665	I. C (MONO-ANA)		*
IC1305	TDA4780	I. C (MONO-ANA)		
IC1311	AN77L05-Y	I. C (MONO-ANA)		*
IC1601	MSP3410B-PP-F7	I. C (DIGI-OTHER)		*
IC1701	M37207EFSP	I. C. (MICRO-COMP)		
IC1702	L78LR05E-MA	I. C (MONO-ANA)		*
IC1751	SDA30C163	I. C (MICRO-COMP)		
IC1752	M27C1001-10F1	I. C (EP-ROM)		
IC1753	AT24C16-32WP2	I. C (EP-ROM)		*
IC1754	SDA5275S	I. C (MICRO-PROC)		
IC1755	MSM514400C60ZS	I. C (D-RAM)		
IC1756	TC4053BP	I. C (DIGI-MOS)		*
IC1757	MN1280-Q	I. C (DIGI-MOS)		*
IC1801	TA8213K	I. C.		
OTHERS				
	CEMS009-064	I. C. SOCKET		

△ Symbol No.	Part No.	Part Name	Description	Local
<b>OTHERS</b>				
	CEMS007-008	I. C. SOCKET		
	CEMS006-068	IC SOCKET		
	CEMS007-032	IC SOCKET		
	CEMS007-008	I. C. SOCKET		
EF1001	CE42142-103Z	EMI FILTER		
EF1610-12	CE42142-103Z	EMI FILTER		
K1001-03	CE41433-001Z	BEADS CORE		*
K1005	CE41492-001Z	CHOKE COIL		
K1009-11	CE41433-001Z	BEADS CORE		*
K1602	CE41433-001Z	BEADS CORE		*
K1701-02	CE41433-001Z	BEADS CORE		*
MD1	-----	100Hz PWB ASSY	(Refer to P41)	
MD2	-----	IF PWB ASSY	(Refer to P40)	
MD3	-----	SUB TEXT PWB	(As follows)	
TU1001	CEEK481-A01	TUNER		*
UD1001	CEGA010-001	RF SPLITTER		
X1311	CE40749-001Z	CRYSTAL		*
X1312	CE40668-001Z	CRYSTAL		*
X1610	CE42546-001Z	CRYSTAL		*
X1701	CST8.00MTW	CER. RESONATOR		*
X1751	QAX0307-001	CER. RESONATOR		
X1752	QAX0351-001Z	X TAL		*

**SUB TEXT PW BOARD ASS'Y (SMB-1111B-U2)**

This PW Board Ass'Y is included in the above MAIN PW Board Ass'Y.

△ Symbol No.	Part No.	Part Name	Description	Local
<b>RESISTOR</b>				
R1348	QRD161J-681Y	C R	680 Ω 1/6W J	*
R1370	QRD161J-820Y	C R	82 Ω 1/6W J	*
R1371	QRD161J-104Y	C R	100kΩ 1/6W J	*
R1701	QRD161J-683Y	C R	68kΩ 1/6W J	*
R1702	QRD161J-273Y	C R	27kΩ 1/6W J	*
R1703	QRD161J-102Y	C R	1kΩ 1/6W J	*
R1704	QRD161J-683Y	C R	68kΩ 1/6W J	*
R1705	QRD161J-273Y	C R	27kΩ 1/6W J	*
R1706	QRD161J-102Y	C R	1kΩ 1/6W J	*
R1707	QRD161J-683Y	C R	68kΩ 1/6W J	*
R1708	QRD161J-273Y	C R	27kΩ 1/6W J	*
R1709	QRD161J-102Y	C R	1kΩ 1/6W J	*
<b>CAPACITOR</b>				
C1001	QCZ0120-104MZ	C CAP.	0.1 μF 25V Z	*
C1003	QCT25CH-270Z	C CAP.	27 pF 50V J	*
C1005	QCT25CH-150Z	C CAP.	15 pF 50V J	*
C1362	QCT25CH-270Z	C CAP.	27 pF 50V J	*
C1701	QETN1HM-226Z	E CAP.	22 μF 50V M	*
C1702-04	QETN1HM-106Z	E CAP.	10 μF 50V M	*
C1705-07	QCZ0120-104MZ	C CAP.	0.1 μF 25V Z	*
<b>COIL</b>				
L1301	CELP027-390Z	PEAKING COIL	39 μH	*
<b>TRANSISTOR</b>				
Q1347	2SK301 (P)-T	F. E. T.		*
Q1701-03	2PC1815 (YG)-T	SI. TRANSISTOR		*
<b>IC</b>				
IC1001	HD74AC00P	I C		
IC1001	TC74AC00AP	I C		

# IF PW BOARD ASS'Y (SMB0F701B-U2)

This PW Board Ass'Y is included in the above MAIN PW Board Ass'Y.

△ Symbol No.	Part No.	Part Name	Description	Local
<b>R E S I S T O R</b>				
R0103	QRSA08J-102YL	CHIP MG R	1kΩ 1/10W J	*
R0104	QRSA08J-121YL	CHIP MG R	120 Ω 1/10W J	*
R0105	QRSA08J-151YL	CHIP MG R	150 Ω 1/10W J	*
R0106	QRSA08J-181YL	CHIP MG R	180 Ω 1/10W J	*
R0107	QRSA08J-151YL	CHIP MG R	150 Ω 1/10W J	*
△ R0609	QRZ0054-470M	F R	47 Ω 1/4W J	*
<b>C A P A C I T O R</b>				
C0020	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	*
C0022-25	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	*
C0026-27	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0030	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	*
C0040	NCT03CH-102AY	CHIP CAP.	1000 pF 1600V H	*
C0041	QETN1CM-107Z	E CAP.	100 μF 16V M	*
C0042	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0043	QETN1CM-107Z	E CAP.	100 μF 16V M	*
C0044	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0046	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0047	QETN1CM-227Z	E CAP.	220 μF 16V M	*
C0050	QETN1HM-105Z	E CAP.	1 μF 50V M	*
C0051	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	*
C0052	QAT3110-100A	TRIM CAP.	10 pF 100V	*
C0053	NCT03CH-6R0AY	CHIP CAP.	6 pF 1600V H	*
C0054	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0055	QETN1CM-107Z	E CAP.	100 μF 16V M	*
C0056	QETN1HM-474Z	E CAP.	0.47 μF 50V M	*
C0057	NCT03CH-102AY	CHIP CAP.	1000 pF 1600V H	*
C0058	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	*
C0059	QAT3110-100A	TRIM CAP.	10 pF 100V	*
C0060	NCT03CH-120AY	CHIP CAP.	12 pF 1600V H	*
C0061	NCT03CH-7R0AY	CHIP CAP.	7 pF 1600V H	*
C0062	QETN1HM-474Z	E CAP.	0.47 μF 50V M	*
C0063	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0064	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	*
C0065	QETN1HM-105Z	E CAP.	1 μF 50V M	*
C0067	NCT03CH-120AY	CHIP CAP.	12 pF 1600V H	*
C0069-70	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0071	QETN1HM-336Z	E CAP.	33 μF 50V M	*
C0080-81	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	*
C0101	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C0102	NCT03CH-391AY	CHIP CAP.	390 pF 1600V H	*
C0103	NCT03CH-121AY	CHIP CAP.	120 pF 1600V H	*
C0104	NCT03CH-181AY	CHIP CAP.	180 pF 1600V H	*
C0105	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0140	QETN1HM-335Z	E CAP.	3.3 μF 50V M	*
C0141	NCB21HK-332AY	CHIP CAP.	3300 pF 50V K	*
C0142	QETN1HM-105Z	E CAP.	1 μF 50V M	*
C0143	QFLC1HJ-683MZ	M CAP.	0.068 μF 50V Z	*
C0144	QETN1HM-335Z	E CAP.	3.3 μF 50V M	*
C0145	NCB21HK-222AY	CHIP CAP.	2200 pF 50V K	*
C0601	QFLC1HJ-183MZ	M CAP.	0.018 μF 50V J	*
C0602	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C0603	QETN1HM-106Z	E CAP.	10 μF 50V M	*
C0604	QETN1HM-105Z	E CAP.	1 μF 50V M	*
C0605	QETN1CM-477Z	E CAP.	470 μF 16V M	*
C0606	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
<b>T R A N S F O R M E R</b>				
T0020	QQR0626-001	I. F. TRANSF.		*
T0050	CEL T001-307	C. WAVE TRANSF.		*
T0051	CEL T001-306	C. WAVE TRANSF.		*
<b>C O I L</b>				
L0020	CELP041-R47	PEAKING COIL	0.47 μH	*
L0021	CE41131-1R5Y	INDUCTOR	1.5 μH	*
L0030	CE41131-2R2Y	INDUCTOR	2.2 μH	*

# 100Hz PW BOARD ASS'Y (SMB0Z001B-U2)

This PW Board Ass'Y is included in the above MAIN PW Board Ass'Y.

△ Symbol No.	Part No.	Part Name	Description	Local
<b>R E S I S T O R</b>				
R0302	NRVA02D-1502NY	M. F. R	15kΩ 1/10W J	
R0303	NRVA02D-1102NY	CHIP MF R	11kΩ 1/10W J	
<b>C A P A C I T O R</b>				
C0001	QETN1CM-227Z	E CAP.	220μF 16V M	*
C0002	NCF21EZ-104AY	C CAP.	0.1μF 25V Z	*
C0003	QETN1CM-227Z	E CAP.	220μF 16V M	*
C0004	NCF21EZ-104AY	C CAP.	0.1μF 25V Z	*
C0005	QETN1CM-227Z	E CAP.	220μF 16V M	*
C0006	NCF21EZ-104AY	C CAP.	0.1μF 25V Z	*
C0007	QETN1CM-227Z	E CAP.	220μF 16V M	*
C0008	NCF21EZ-104AY	C CAP.	0.1μF 25V Z	*
C0009-10	QETN1AM-108Z	E CAP.	1000μF 10V M	*
C0101	NCS21HJ-151AY	C CAP.	150pF 50V J	*
C0102	NCT03CH-390AY	CHIP CAP.	39pF 1600V H	*
C0103	NCS21HJ-271AY	C CAP.	270pF 50V J	*
C0106	QETN1HM-105Z	E CAP.	1μF 50V M	*
C0107	NCF21HZ-224AY	CHIP C CAP.	0.22μF 50V Z	*
C0108	NCF21EZ-104AY	C CAP.	0.1μF 25V Z	*
C0109	QETN1CM-476Z	E CAP.	47μF 16V M	*
C0111	NCS21HJ-151AY	C CAP.	150pF 50V J	*
C0112	NCT03CH-390AY	CHIP CAP.	39pF 1600V H	*
C0113	NCS21HJ-271AY	C CAP.	270pF 50V J	*
C0116	QETN1HM-105Z	E CAP.	1μF 50V M	*
C0117	NCF21HZ-224AY	CHIP C CAP.	0.22μF 50V Z	*
C0118	NCF21EZ-104AY	C CAP.	0.1μF 25V Z	*
C0121	NCS21HJ-151AY	C CAP.	150pF 50V J	*
C0122	NCT03CH-390AY	CHIP CAP.	39pF 1600V H	*
C0123	NCS21HJ-271AY	C CAP.	270pF 50V J	*
C0126	QETN1HM-106Z	E CAP.	10μF 50V M	*
C0127	NCF21HZ-224AY	CHIP C CAP.	0.22μF 50V Z	*
C0128	NCF21EZ-104AY	C CAP.	0.1μF 25V Z	*
C0131	NCF21EZ-104AY	C CAP.	0.1μF 25V Z	*
C0132	QETNOJM-227Z	E CAP.	220μF 6.3V M	*
C0133	NCF21EZ-104AY	C CAP.	0.1μF 25V Z	*
C0134	NCF21EZ-104AY	C CAP.	0.1μFF 25V Z	*
C0135-36	QETNOJM-227Z	E CAP.	220μF 6.3V M	*
C0137	NCF21EZ-104AY	C CAP.	0.1μF 25V Z	*
C0138	QETNOJM-227Z	E CAP.	220μF 6.3V M	*
C0139	NCF21EZ-104AY	C CAP.	0.1μF 25V Z	*
C0142-47	NCF21EZ-104AY	C CAP.	0.1μF 25V Z	*
C0148	QETNOJM-227Z	E CAP.	220μF 6.3V M	*
C0149-54	NCF21EZ-104AY	C CAP.	0.1μF 25V Z	*
C0155	NCT03CH-390AY	CHIP CAP.	39pF 1600V H	*
C0201-06	NCF21EZ-104AY	C CAP.	0.1μF 25V Z	*
C0207	NGB21HK-103AY	CHIP CAP.	0.01μF 50V K	*
C0208-13	NCF21EZ-104AY	C CAP.	0.1μF 25V Z	*
C0214	NCT03CH-100AY	CHIP CAP.	10pF 1600V H	*
C0221-38	NCF21EZ-104AY	C CAP.	0.1μF 25V Z	*
C0301	QETNOJM-227Z	E CAP.	220μF 6.3V M	*
C0302	NCF21EZ-104AY	C CAP.	0.1μF 25V Z	*
C0303	QETNOJM-227Z	E CAP.	220μF 6.3V M	*
C0304	NCF21EZ-104AY	C CAP.	0.1μF 25V Z	*
C0307-08	NCF21EZ-104AY	C CAP.	0.1μF 25V Z	*
C0309	QETN1CM-107Z	E CAP.	100μF 16V M	*
C0310	QETNOJM-227Z	E CAP.	220μF 6.3V M	*
C0311	NCF21EZ-104AY	C CAP.	0.1μF 25V Z	*
C0313	NCS21HJ-152AY	CHIP C CAP.	1500pF 50V J	*
C0314-18	NCF21EZ-104AY	C CAP.	0.1μF 25V Z	*
C0321	QETN1HM-105Z	E CAP.	1μF 50V M	*
C0322	NCF21HZ-224AY	CHIP C CAP.	0.22μF 50V Z	*
C0323	NCF21EZ-104AY	C CAP.	0.1μF 25V Z	*
C0324	QETN1CM-476Z	E CAP.	47μF 16V M	*
C0331	QETN1HM-105Z	E CAP.	1μF 50V M	*

△ Symbol No.	Part No.	Part Name	Description	Local
<b>CAPACITOR</b>				
C0332	NCF21HZ-224AY	CHIP C CAP.	0.22 $\mu$ F 50V Z	
C0333	NCF21EZ-104AY	C CAP.	0.1 $\mu$ F 25V Z	*
C0341	QETN1HM-106Z	E CAP.	10 $\mu$ F 50V M	*
C0342	QETN1HM-105Z	E CAP.	1 $\mu$ F 50V M	*
C0343	NCF21EZ-104AY	C CAP.	0.1 $\mu$ F 25V Z	*
C0401	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	*
C0402	NCF21EZ-104AY	C CAP.	0.1 $\mu$ F 25V Z	*
C0403	QETN0JM-227Z	E CAP.	220 $\mu$ F 6.3V M	*
C0404	NCF21EZ-104AY	C CAP.	0.1 $\mu$ F 25V Z	*
C0405	QETN1CM-107Z	E CAP.	100 $\mu$ F 16V M	*
C0406	NCF21EZ-104AY	C CAP.	0.1 $\mu$ F 50V Z	*
C0407	NCF21EZ-104AY	C CAP.	0.1 $\mu$ F 25V Z	*
C0408	QETN1CM-107Z	E CAP.	100 $\mu$ F 16V M	*
C0409-10	NCT03CH-270AY	CHIP CAP.	27 pF 1600V H	*
C0411	NCT03CH-180AY	CHIP CAP.	18 pF 1600V H	*
C0412-13	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	*
C0415	NCF21EZ-104AY	C CAP.	0.1 $\mu$ F 25V Z	*
<b>COIL</b>				
L0001-02	CE40344-4R7YL	INDUCTOR	4.7 $\mu$ H	*
L0003-04	CE40344-100YL	INDUCTOR	10 $\mu$ H	*
L0005-07	CE40344-4R7YL	INDUCTOR	4.7 $\mu$ H	*
L0101	CE41131-3R3Y	INDUCTOR	3.3 $\mu$ H	*
L0111	CE41131-3R3Y	INDUCTOR	3.3 $\mu$ H	*
L0121	CE41131-3R3Y	INDUCTOR	3.3 $\mu$ H	*
L0301	CE41131-100Y	INDUCTOR	10 $\mu$ H	*
L0401-02	CE40344-330YL	INDUCTOR	33 $\mu$ H	*
<b>DIODE</b>				
D0301	MA3051 (L)-X	ZENER DIODE		*
<b>TRANSISTOR</b>				
Q0101	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0102	2SA1162 (YG)-X	SI. TRANSISTOR		*
Q0103	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0104	2SA1162 (YG)-X	SI. TRANSISTOR		*
Q0111	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0112	2SA1162 (YG)-X	SI. TRANSISTOR		*
Q0113	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0114	2SA1162 (YG)-X	SI. TRANSISTOR		*
Q0121	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0122	2SA1162 (YG)-X	SI. TRANSISTOR		*
Q0123	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0124	2SA1162 (YG)-X	SI. TRANSISTOR		*
Q0131	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0321	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0322	2SA1162 (YG)-X	SI. TRANSISTOR		*
Q0323	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0324	2SA1162 (YG)-X	SI. TRANSISTOR		*
Q0331	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0332	2SA1162 (YG)-X	SI. TRANSISTOR		*
Q0333	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0334	2SA1162 (YG)-X	SI. TRANSISTOR		*
Q0341	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0342	2SA1162 (YG)-X	SI. TRANSISTOR		*
Q0343	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0344-45	2SA1162 (YG)-X	SI. TRANSISTOR		*
Q0351	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0361	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0401	2SC2712 (YG)-X	SI. TRANSISTOR		*
<b>I C</b>				
IC0101	SDA9205-2-W	I. C (DIGI-MOS)		*
IC0201	SDA9272	I. C (MICRO-COMP)		*
IC0202	SDA9251-X	I. C (SAM)		*
IC0203-04	SDA9253	I. C (SAM)		*



△ Symbol No.	Part No.	Part Name	Description	Local
<b>I C</b>				
IC0301	SDA9280-W	I. C (DIGI-OTHER)		*
IC0401	SDA9257	I. C (DIGI-OTHER)		
IC0402	MC74F04M-X	I C		
<b>O T H E R S</b>				
DL0321	NQR0241-001X	L. P. F		*
DL0331	NQR0241-001X	L. P. F		*
DL0341	NQR0242-001X	L. P. F		*
EF0001-05	CE42482-103Y	EMI FILTER		*
EF0006	CE42482-470Y	EMI FILTER		*
EF0101	CE42482-470Y	EMI FILTER		*
EF0111	CE42482-470Y	EMI FILTER		*
EF0121	CE42482-470Y	EMI FILTER		*
EF0321	CE42482-470Y	EMI FILTER		*
EF0331	CE42482-470Y	EMI FILTER		*
EF0341-42	CE42482-470Y	EMI FILTER		*
EF0351	CE42482-470Y	EMI FILTER		*
EF0361	CE42482-470Y	EMI FILTER		*
K0001	CE41433-001Z	BEADS CORE		*
X0401	QAX0350-001	X TAL		

#### AUDIO PW BOARD ASS'Y (SMB-6001B-U2)

△ Symbol No.	Part No.	Part Name	Description	Local
<b>C A P A C I T O R</b>				
C6101	QFV71HJ-684MZ	TF CAP.	0.68 $\mu$ F 50V J	*
C6102-03	QETN1EM-228	E CAP.	2200 $\mu$ F 25V M	*
C6105	QETN1HM-105Z	E CAP.	1 $\mu$ F 50V M	*
C6106	QETN1CM-107Z	E CAP.	100 $\mu$ F 16V M	*
C6108	QFV71HJ-684MZ	TF CAP.	0.68 $\mu$ F 50V J	*
C6109-10	QFV71HJ-104MZ	TF CAP.	0.1 $\mu$ F 50V J	
C6112	QETN1HM-105Z	E CAP.	1 $\mu$ F 50V M	*
C6113	QETN1CM-107Z	E CAP.	100 $\mu$ F 16V M	*
C6115-16	QFV71HJ-684MZ	TF CAP.	0.68 $\mu$ F 50V J	*
C6117-18	QFV71HJ-104MZ	TF CAP.	0.1 $\mu$ F 50V J	
C6121	QFLC1HJ-103MZ	M CAP.	0.01 $\mu$ F 50V J	*
<b>D I O D E</b>				
D6101-04	MTZJ27 (B)-T2	ZENER DIODE		*
D6105	MTZJ5.1 (B)-T2	ZENER DIODE		*
D6107	1SS133-T2	SI. DIODE		*
D6108	MA700-T2	SI. DIODE		*
D6112	1SS133-T2	SI. DIODE		*
D6115	1SS133-T2	SI. DIODE		*
<b>T R A N S I S T O R</b>				
Q6101	DTC144ESA-T	DIGI. TRANSISTOR		
Q6102	2PA1015 (YG)-T	SI. TRANSISTOR		*
Q6104	2PA1015 (YG)-T	SI. TRANSISTOR		*
Q6105	DTC144ESA-T	DIGI. TRANSISTOR		
Q6106-07	DTC323TS-T	DIGI. TRANSISTOR		*
<b>I C</b>				
IC6101-02	TDA2052V	I. C (MONO-ANA)		*
<b>O T H E R S</b>				
K6001-02	CE41433-001Z	BEADS CORE		*

**POWER DEF PW BOARD ASS'Y (SMB-2001B-U2)**

△ Symbol No.	Part No.	Part Name	Description	Local
<b>RESISTOR</b>				
R2409	QRX019J-1R0S	MF R	1 Ω 1W J	*
R2411	QRG029J-221	OM R	220 Ω 2W J	
R2412-13	QRX019J-1R8S	MF R	1.8 Ω 1W J	*
R2418	QRV141F-6802AY	MF R	68k Ω 1/4W F	
R2419	QRV141F-7870AY	MF R	787 Ω 1/4W F	
R2421	QRV141F-1003AY	MF R	100k Ω 1/4W F	
R2422	QRV141F-1501AY	MF R	1.5k Ω 1/4W F	
R2508	QRV141F-2002AY	MF R	20k Ω 1/4W F	
R2509	QRV141F-4701AY	MF R	4.7k Ω 1/4W F	
R2516	QRG039J-272	OM R	2.7k Ω 3W J	
R2517	QRG039J-122	OM R	1.2k Ω 3W J	
R2533	QRX039J-5R6	MF R	5.6 Ω 3W J	
R2571	QRG029J-123	OM R	12k Ω 2W J	*
R2581	QRF104J-100	UNF R	10 Ω 10W J	*
R2902	QRF154K-4R7	UNF R	4.7 Ω 15W K	*
R2905	QRG039J-333	OM R	33k Ω 3W J	*
R2907	QRM059J-R22	MP R	0.22 Ω 5W J	*
R2910	QRG039J-393	OM R	39k Ω 3W J	
R2951	QRF074J-102	UNF R	1k Ω 7W J	*
R2952	QRG029J-123	OM R	12k Ω 2W J	*
R2953	QRX039J-5R6	MF R	5.6 Ω 3W J	
R2962-63	QRG019J-220S	OM R	22 Ω 1W J	*
△ R2991	QRZ0057-825	C R	8.2M Ω 1W J	*
<b>CAPACITOR</b>				
C2401	QFLC2AJ-104MZ	M CAP.	0.1 μF 100V J	*
C2402	QETC1VM-337Z	E CAP.	330 μF 35V M	*
C2403	QFV71HJ-104MZ	TF CAP.	0.1 μF 50V J	
C2405	QFV71HJ-474MZ	TF CAP.	0.47 μF 50V J	*
C2406	QFLC2AJ-104MZ	M CAP.	0.1 μF 100V J	*
C2407	QFLC2AK-223MZ	M CAP.	0.022 μF 100V K	*
C2410	QFV71HJ-474MZ	TF CAP.	0.47 μF 50V J	*
C2411	QETN1HM-226Z	E CAP.	22 μF 50V M	*
C2412	QETM1VM-108	E CAP.	1000 μF 35V M	*
C2415	QCT25CH-470Z	C CAP.	47 pF 50V J	*
C2501	QFV71HJ-124MZ	TF CAP.	0.12 μF 50V J	*
C2502	QETN1CM-108Z	E CAP.	1000 μF 16V M	*
C2503	QETN2AM-106Z	E CAP.	10 μF 100V M	*
C2504	QETN1AM-227Z	E CAP.	220 μF 10V M	*
C2505	QFLC2AJ-102MZ	M CAP.	1000 pF 100V J	*
C2507	QFLC1HJ-104MZ	M CAP.	0.1 μF 16V J	*
C2508	QFM72DK-103M	M CAP.	0.01 μF 200V K	*
C2509	QETN1AM-227Z	E CAP.	220 μF 10V M	*
C2520	QFV71HJ-224MZ	TF CAP.	0.22 μF 50V J	*
C2521	QFZ0117-1701S	MPP CAP.	1700 pF 2000V±2.5%	
C2522	QFZ0117-4701S	MPP CAP.	4700 pF 2000V±2.5%	
C2523	QFM72DK-683M	M CAP.	0.068 μF 200V K	*
C2525	QFZ0117-4701S	MPP CAP.	4700 pF 2000V±2.5%	
C2526	QFZ0119-684S	MPP CAP.	0.68 μF 200V J	*
C2527	QFZ0119-514S	MPP CAP.	0.51 μF 200V J	*
C2528	QFZ0128-404S	MPP CAP.	0.4 μF 400V ±3%	
C2529	QFZ0128-204S	MPP CAP.	0.2 μF 400V ±3%	
C2533	QFZ0194-534	MPP CAP.	0.53 μF 250V J	
C2536	QFZ0119-534S	MPP CAP.	0.53 μF 200V ±3%	*
C2537	QETM2CM-227	E CAP.	220 μF 160V M	*
C2541	QEZ0195-475MZ	E CAP.	4.7 μF 50V M	*
C2544	QETN1EM-476Z	E CAP.	47 μF 25V M	*
C2545	QETN1AM-107Z	E CAP.	100 μF 10V M	*
C2546	QFLC1HK-104MZ	M CAP.	0.1 μF 50V K	*
C2551	QEN61HM-105Z	BP E CAP.	1 μF 50V M	*
C2554	QETN2EM-106Z	E CAP.	10 μF 250V M	*
C2555-56	QETN1EM-108Z	E CAP.	1000 μF 25V M	*
C2561	QCZO122-681A	C CAP.	680 pF 2000V K	
C2581	QETC0JM-107Z	E CAP.	100 μF 6.3V M	*
C2582	QETN1CM-476Z	E CAP.	47 μF 16V M	*

△ Symbol No.	Part No.	Part Name	Description	Local
<b>CAPACITOR</b>				
△ C2902	QFZ9040-473N	MM CAP.	0.47 $\mu$ F 400V M	*
C2903	QOZ9034-472A	C CAP.	0.047 $\mu$ F 400V P	*
C2904-05	QOZ9034-472A	C CAP.	4700 pF 400V P	*
C2906	QEZ0199-227M	E CAP.	220 $\mu$ F	*
C2908	QOZ0122-151A	C CAP.	150 pF 2000V K	*
C2909	QOZ0122-221A	C CAP.	220 pF 2000V K	*
C2910	QETN1EM-227Z	E CAP.	220 $\mu$ F 25V M	*
C2914	QFLC1HK-104MZ	M CAP.	0.1 $\mu$ F 50V K	*
C2916	QFLC1HJ-102MZ	M CAP.	1000 pF 50V J	*
C2919	QETN1HM-105Z	E CAP.	1 $\mu$ F 50V M	*
C2920	QFLC1HJ-472MZ	M CAP.	4700 pF 50V J	*
C2951	QEZ0203-227	E CAP.	200 $\mu$ F 160V M	*
C2952	QEH01CM-108MZ	E CAP.	1000 $\mu$ F 16V M	*
C2953	QEH01CM-108M	E CAP.	1000 $\mu$ F 16V M	*
C2954	QEZ0106-228R	E CAP.	2200 $\mu$ F 10V M	*
C2955	QETB1VM-108	E CAP.	1000 $\mu$ F 35V M	*
C2960	QCY32HK-102RZ	CH C CAP.	1000 pF 500V K	*
C2966-68	QOZ0120-104MZ	C CAP.	0.1 $\mu$ F 25V Z	*
C2970	QEH01HM-336MZ	E CAP.	33 $\mu$ F 50V M	*
C2971	QEH01CM-107MZ	E CAP.	100 $\mu$ F 16V M	*
C2972	QETN1AM-228Z	E CAP.	2200 $\mu$ F 10V M	*
C2973	QEH01AM-227MZ	E CAP.	220 $\mu$ F 10V M	*
C2975	QEH01CM-228M	E CAP.	2200 $\mu$ F 16V M	*
C2976	QEZ0106-228R	E CAP.	2200 $\mu$ F 10V M	*
C2977	QEH01AM-107MZ	E CAP.	100 $\mu$ F 10V M	*
C2978	QOZ0122-151A	C CAP.	150 pF 2000V K	*
C2981	QETN1EM-227Z	E CAP.	220 $\mu$ F 25V M	*
C2982-83	QETN1HM-106Z	E CAP.	10 $\mu$ F 50V M	*
△ C2991	QOZ9041-471A	C CAP.	470 pF 400V K	*
△ C2992	QOZ9041-332A	C CAP.	330 pF 400V M	*
<b>TRANSFORMER</b>				
T2501	CE42672-001	DRIVE TRANSF		*
T2521	QQR0706-001	PINC. TRANSF.		*
△ T2551	CEH021-00AJ1	H. V. T (SERVICE)		*
T2561	CE42692-001J1	DAF TRANSF.		*
△ T2901	CETS089-001J4	SWITCH. TRANSF.		*
T2981	QQT0147-001	POWER TRANSF.		*
<b>COIL</b>				
L2521	QQR0707-002	LINEARITY COIL		*
L2541	QQR0705-001	CHOKE COIL		*
L2551	CELC901-056J6	HEATER CHOKE		*
L2901-02	CELC055-100	CHOKE COIL		*
L2903	CELC005-2R5J7	CHOKE COIL	2.5 $\mu$ H	*
L2951	CELC901-046J6	HEATER CHOKE		*
L2952-53	CELC057-5R6Z	CHOKE COIL	5.6 $\mu$ H	*
L2954	CELC058-220Z	CHOKE COIL	22 $\mu$ H	*
<b>DIODE</b>				
D2401	MTZJ75-T2	ZENER DIODE		*
D2402	BYD33D-T3	SI. DIODE		*
D2403	1SS133-T2	SI. DIODE		*
D2404	MTZJ7.5S-T2	ZENER DIODE		*
D2405	1SS133-T2	SI. DIODE		*
D2406-09	MA700A-T2	SI. DIODE		*
D2410	1SS133-T2	SI. DIODE		*
D2411	MTZJ22(B)-T2	ZENER DIODE		*
D2501	BYD33G-T3	SI. DIODE		*
D2502	MTZJ7.5S-T2	ZENER DIODE		*
D2504	1SS133-T2	SI. DIODE		*
D2505	MTZJ6.8(A)-T2	ZENER DIODE		*
D2506	1SS146-T2	SI. DIODE		*
D2507	1SS81-T5	SI. DIODE		*
D2508	1SS133-T2	SI. DIODE		*
D2521	FMV-3FU-C1	SI. DIODE		*
D2525	V11CA-C1	SI. DIODE		*

△ Symbol No.	Part No.	Part Name	Description	Local
<b>D I O D E</b>				
D2541	MTZJ6.8 (C)-T2	ZENER DIODE		*
D2542	1SS133-T2	SI. DIODE		*
D2550-51	BYD33G-T3	SI. DIODE		*
D2552-53	BYW95B-20	SI. DIODE		*
D2556	BYD33G-T3	SI. DIODE		*
D2571	MTZJ33 (B)-T2	ZENER DIODE		*
D2581	MTZJ15 (B)-T2	ZENER DIODE		*
D2582	MTZJ7.5 (B)-T2	ZENER DIODE		*
D2585	1SS133-T2	SI. DIODE		*
D2901	D3SB60	BRIDGE DIODE		
D2902	BYD33M-T3	SI. DIODE		*
D2903	1SR124-400A-T2	SI. DIODE		*
D2904-05	BYD33D-T3	SI. DIODE		*
D2951-52	RU4C-C1	SI. DIODE		
D2953	BYD33M-T3	SI. DIODE		*
D2954-55	BYW95B-20	SI. DIODE		*
D2956	SF6L20U	SI. DIODE		
D2957	BYW95B-20	SI. DIODE		*
D2958-59	SF6L20U	SI. DIODE		
D2960	MTZJ5.1 (A)-T2	ZENER DIODE		*
D2961	MTZJ5.6 (A)-T2	ZENER DIODE		*
D2962-66	1SS133-T2	SI. DIODE		*
D2968	1SS133-T2	SI. DIODE		*
D2970	1SS133-T2	SI. DIODE		*
D2981-84	1N4003-T2	SI. DIODE		*
D2985	1SS133-T2	SI. DIODE		*
D2986	MTZJ8.2 (B)-T2	ZENER DIODE		*
D2987	1SS133-T2	SI. DIODE		*
<b>T R A N S I S T O R</b>				
Q2401-02	DTC144ESA-T	DIGI. TRANSISTOR		
Q2403	2PC1815 (YG)-T	SI. TRANSISTOR		*
Q2404	DTC144ESA-T	DIGI. TRANSISTOR		
Q2405-06	2PC1815 (YG)-T	SI. TRANSISTOR		*
Q2501	BSN274	F. E. T.		*
Q2505	2PA1015 (YG)-T	SI. TRANSISTOR		*
Q2506	2PC1815 (YG)-T	SI. TRANSISTOR		*
Q2521	2SC5406-RL	SI. TRANSISTOR		*
Q2523	IRF640	F. E. T.		
Q2526	DTC124ESA-T	DIGI. TRANSISTOR		*
Q2541	2SD1408 (OY)-LB	SI. TRANSISTOR		
Q2551	DTA124ESA-T	DIGI. TRANSISTOR		
Q2552	DTC144ESA-T	DIGI. TRANSISTOR		
Q2581	2SA949 (Y) C1	SI. TRANSISTOR		*
Q2582	DTC144ESA-T	DIGI. TRANSISTOR		
Q2901	2SK2148-C1	F. E. T.		
Q2955	2PC1815 (YG)-T	SI. TRANSISTOR		*
Q2981	2SC2655 (Y)-T	SI. TRANSISTOR		*
Q2982	2PC1815 (YG)-T	SI. TRANSISTOR		*
<b>I C</b>				
IC2401	LA7841	I. C (MONO-ANA)		
IC2501	TDA9151B	I. C (DEF-PRO)		*
IC2541	UPC4558C	I. C (MONO-ANA)		
IC2901	MC44603P	I. C (MONO-ANA)		*
IC2951	SE135N	I. C (HYBRID)		*
IC2952	LM2940CT-12	I. C (MONO-ANA)		
IC2953	UPC2409AHF	I. C (MONO-ANA)		
IC2954	KIA7808PI	I. C (MONO-ANA)		*
IC2955-56	PQ05RF21	I. C (MONO-ANA)		
IC2957	KIA7808PI	I. C (MONO-ANA)		*
<b>O T H E R S</b>				
△ FR2551	QRH017J-1ROM	F R	1 Ω 1W J	*
△ FR2552	QRH017J-1ROM	F R	1 Ω 1W J	*

△ Symbol No.	Part No.	Part Name	Description	Local
<b>O T H E R S</b>				
△ FR2553	QRZ0054-4R7M	F R	4.7 Ω 1/4W J	*
K2402	CE41433-001Z	BEADS CORE		*
K2502-05	QQR0679-001	FERRITE BEADS		
K2901-04	CE42050-001Z	CORE		*
K2951	CE41433-001Z	BEADS CORE		*
PC2521	TLP621 (B)	I. C (PH. COUPLER)		*
△ PC2901	TLP721F (D4-GR)	I. C (PH. COUPLER)		*
RY2981	GESK028-002	RELAY		*
TH2901	CEKP002-003	W. P. THERMISTOR		*
VA2561	ERZV10V112C1	VARISTOR		*

### CRT SOCKET PW BOARD ASS'Y (SMB-3001B-U2)

△ Symbol No.	Part No.	Part Name	Description	Local
<b>R E S I S T O R</b>				
R3106	QRD14GJ-100SX	C R	10 Ω 1/4W J	
R3119	QRG029J-391A	OM R	390 Ω 2W J	*
R3229-31	QRG019J-823S	OM R	82kΩ 1W J	
<b>C A P A C I T O R</b>				
C3101	QETN1HM-106Z	E CAP.	10 μF 50V M	*
C3102	QFLC1HK-103MZ	M CAP.	0.01 μF 50V K	*
C3103	QETN1HM-335Z	E CAP.	3.3 μF 50V M	*
C3104	QETN1CM-107Z	E CAP.	100 μF 16V M	*
C3107	QETC2CM-106Z	E CAP.	10 μF 160V M	*
C3110	QETC2CM-106Z	E CAP.	10 μF 160V M	*
C3111	QETC0JM-107Z	E CAP.	100 μF 6.3V M	*
C3118	QETN1HM-106Z	E CAP.	10 μF 50V M	*
C3204-09	QCZ0120-104MZ	C CAP.	0.1 μF 25V Z	*
C3210-12	QFH62EK-104MZ	MM CAP.	0.1 μF 250V K	*
C3218	QETM2EM-336	E CAP.	33 μF 250V M	*
C3219	QFZ0097-223M	M M CAP.	0.022 μF 1250V K	*
C3221	QETC2EM-106Z	E CAP.	10 μF 250V M	*
C3301	QETN1CM-107Z	E CAP.	100 μF 16V M	*
<b>C O I L</b>				
L3101	CELP026-150Z	PEAKING COIL	15 μH	*
L3201-03	CELP026-4R7Z	PEAKING COIL	4.7 μH	*
<b>D I O D E</b>				
D3101-02	RH1S-T3	SI. DIODE		*
D3103	MA165-T2	SI. DIODE		*
D3151	1SS133-T2	SI. DIODE		*
D3204-06	EU01N-T2	SI. DIODE		
D3301	1SS252-T2	SI. DIODE		*
D3302-03	1SS133-T2	SI. DIODE		*
<b>T R A N S I S T O R</b>				
Q3101	2SA1309A (QR) -T	SI. TRANSISTOR		*
Q3102-03	2SC3311A (QR) -T	SI. TRANSISTOR		
Q3104	2SA1309A (QR) -T	SI. TRANSISTOR		*
Q3105	2SA1837	SI. TRANSISTOR		
Q3106	2SC4793	SI. TRANSISTOR		
Q3107	2SC3311A (QR) -T	SI. TRANSISTOR		
Q3108	2SC1906-T	SI. TRANSISTOR		*
Q3301	2PA1015 (YG) -T	SI. TRANSISTOR		*
Q3302	2SC2655 (Y) -T	SI. TRANSISTOR		*
Q3303	2PA1015 (YG) -T	SI. TRANSISTOR		*
<b>I C</b>				
IC3201-03	TDA6111Q	I. C (MONO-ANA)		
<b>O T H E R S</b>				
K3101-04	CE41492-001Z	CHOKE COIL		
△ R3109	QRH017J-561M	F R	560 Ω 1W J	*
△ SK3001	CE42670-001	C. R. T. SOCKET		

### AV TERMINAL PW BOARD ASS'Y (SMB0J001B-U2)

△ Symbol No.	Part No.	Part Name	Description	Local
<b>CAPACITOR</b>				
C0102-04	QEK01CM-106GMZ	E CAP.	10 $\mu$ F 16V M	
C0301	QEK01CM-476MZ	E CAP.	47 $\mu$ F 16V M	*
<b>COIL</b>				
L0101-04	CELP017-5R6Y	PEAKING COIL	5.6 $\mu$ H	*
L0105	CE41832-001	LEAD CORE		*
L0201-04	CELP017-5R6Y	PEAKING COIL	5.6 $\mu$ H	*
L0205	CE41832-001	LEAD CORE		*
L0301-02	CELP017-5R6Y	PEAKING COIL	5.6 $\mu$ H	*
L0303	CE41832-001	LEAD CORE		*
<b>OTHERS</b>				
J0001-03	CE40529-006	SCART CONNECTOR		

### FRONT CONTROL PW BOARD ASS'Y (SMB-8001B-U2)

△ Symbol No.	Part No.	Part Name	Description	Local
<b>CAPACITOR</b>				
C8003	QETN1HM-106Z	E CAP.	10 $\mu$ F 50V M	*
C8004	QOZ0120-104MZ	C CAP.	0.1 $\mu$ F 25V Z	*
C8005	QETN1CM-476Z	E CAP.	47 $\mu$ F 16V M	*
C8009	QETN1CM-476Z	E CAP.	47 $\mu$ F 16V M	*
C8012	QETN1HM-106Z	E CAP.	10 $\mu$ F 50V M	*
C8013-14	QETN1HM-105Z	E CAP.	1 $\mu$ F 50V M	*
C8017-18	QETN1HM-106Z	E CAP.	10 $\mu$ F 50V M	*
C8020	QOZ0120-104MZ	C CAP.	0.1 $\mu$ F 25V Z	*
△ C8901	QFZ9040-474N	MF CAP.	0.47 $\mu$ F	*
<b>COIL</b>				
L8001	CE41832-001	LEAD CORE		*
L8002-03	CELP017-5R6Y	PEAKING COIL	5.6 $\mu$ H	*
L8010-11	CELP017-270Y	PEAKING COIL	27 $\mu$ H	*
L8012	CE41832-001	LEAD CORE		*
<b>DIODE</b>				
D8007	P1201	C. D. S.		*
D8008	1SS133-T2	SI. DIODE		*
D8009	SLR-342MG-T16	L. E. D. (GRN)	ECO	*
D8010	SPR-39MVWF	L. E. D.	POWER	*
D8011	1SS133-T2	SI. DIODE		*
D8012	SLR-342DU-T16	L. E. D. (ORG)	TIMER	*
D8013	SLR-342YY-T16	L. E. D. (YLW)	3D-PHONIC	*
D8014	MTZJ6.8(A)-T2	ZENER DIODE		*
D8015-16	MTZJ15(C)-T2	ZENER DIODE		*
D8017	MTZJ6.2(B)-T2	ZENER DIODE		*
D8018	MTZJ5.1(B)-T2	ZENER DIODE		*
<b>TRANSISTOR</b>				
Q8001	2PC1815(YG)-T	SI. TRANSISTOR		*
Q8002	DTC144ES-T	DIGI. TRANSISTOR		*
Q8003-04	DTA144ESA-T	DIGI. TRANSISTOR		*
<b>I C</b>				
IC8001	GP1U281Q	IFR DETECT UNIT		*
IC8002	BA4558	I. C (MONO-ANA)		*
<b>OTHERS</b>				
	CEMG002-001Z	FUSE CLIP		*
	CM36548-001-E	L. E. D. HOLDER		*
	CM35921-A04-H	CDS HOLDER		*
△ F8901	QMF51D2-3R15J1	FUSE	3.15A	*
J8001	QMS3007-C01	JACK	HEADPHONE	*
J8004	CEMN011-001	JACK	V4IN	*
J8005	CEMN011-002	JACK	L4IN	*
J8006	CEMN011-003	JACK	R4IN	*
△ LF8901	CELF012-001J7	LINE FILTER		*
△ LF8902	CELF012-001J7	LINE FILTER		*
S8001	CESP001-001	PUSH SWITCH	CH UP/DOWN	
S8002	CESP001-001	PUSH SWITCH	MENU	
△ S8901	QSP4K21-C01	PUSH SWITCH	MAIN POWER	*

**DOLBY PW BOARD ASS'Y (SMB0D002B-U2)**

△ Symbol No.	Part No.	Part Name	Description	Local
<b>CAPACITOR</b>				
C0101	QETN1CM-476Z	E CAP.	47 $\mu$ F 16V M	*
C0102	NCT03CH-680AY	CHIP CAP.	68 pF 1600V H	*
C0103	QETN1CM-476Z	E CAP.	47 $\mu$ F 16V M	*
C0104	NCB21HK-473AY	CHIP CAP.	0.047 $\mu$ F 50V K	*
C0105	NCB21HK-223AY	CHIP CAP.	0.022 $\mu$ F 50V K	*
C0106	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	*
C0107	QETN1CM-476Z	E CAP.	47 $\mu$ F 16V M	*
C0108	NCB21HK-473AY	CHIP CAP.	0.047 $\mu$ F 50V K	*
C0109	QETN1CM-476Z	E CAP.	47 $\mu$ F 16V M	*
C0110	NCT03CH-680AY	CHIP CAP.	68 pF 1600V H	*
C0111	NCB21HK-473AY	CHIP CAP.	0.047 $\mu$ F 50V K	*
C0112-13	QETN1CM-476Z	E CAP.	47 $\mu$ F 16V M	*
C0115	NCB21HK-473AY	CHIP CAP.	0.047 $\mu$ F 50V K	*
C0116-25	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	*
C0126	QETN1CM-476Z	E CAP.	47 $\mu$ F 16V M	*
C0127-28	NCT03CH-220AY	CHIP CAP.	22 pF 1600V H	*
C0129	QETN1HM-106Z	E CAP.	10 $\mu$ F 50V M	*
C0130	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	*
C0131	NCF21CZ-105AY	G CAP.	1 $\mu$ F 16V Z	*
C0132	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	*
C0133	NCF21CZ-105AY	G CAP.	1 $\mu$ F 16V Z	*
C0134	QETN1HM-106Z	E CAP.	10 $\mu$ F 50V M	*
C0135	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	*
C0136	NCF21CZ-105AY	G CAP.	1 $\mu$ F 16V Z	*
C0137-38	QETN1HM-106Z	E CAP.	10 $\mu$ F 50V M	*
C0139	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	*
C0140	NCF21CZ-105AY	G CAP.	1 $\mu$ F 16V Z	*
C0141	NCB21HK-102AY	CHIP CAP.	1000 pF 50V K	*
C0142	QETN1CM-107Z	E CAP.	100 $\mu$ F 16V M	*
C0143	NCF21EZ-104AY	G CAP.	0.1 $\mu$ F 25V Z	*
C0144	QETN1CM-227Z	E CAP.	220 $\mu$ F 16V M	*
C0145	NCF21EZ-104AY	G CAP.	0.1 $\mu$ F 25V Z	*
C0146	QETN1CM-107Z	E CAP.	100 $\mu$ F 16V M	*
C0147-53	NCF21EZ-104AY	G CAP.	0.1 $\mu$ F 25V Z	*
C0201	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	*
C0202	NCB21HK-223AY	CHIP CAP.	0.022 $\mu$ F 50V K	*
C0203	NCB21HK-182AY	CHIP CAP.	1800 pF 50V K	*
C0204	NCF21CZ-105AY	G CAP.	1 $\mu$ F 16V Z	*
C0205	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	*
C0206	NCB21HK-223AY	CHIP CAP.	0.022 $\mu$ F 50V K	*
C0207	NCB21HK-182AY	CHIP CAP.	1800 pF 50V K	*
C0208	NCF21CZ-105AY	G CAP.	1 $\mu$ F 16V Z	*
C0209	QETN1CM-107Z	E CAP.	100 $\mu$ F 16V M	*
C0210	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	*
C0211	NCB21HK-182AY	CHIP CAP.	1800 pF 50V K	*
C0212	NCF21CZ-105AY	G CAP.	1 $\mu$ F 16V Z	*
C0213	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	*
C0214	NCB21HK-223AY	CHIP CAP.	0.022 $\mu$ F 50V K	*
C0215	NCB21HK-182AY	CHIP CAP.	1800 pF 50V K	*
C0216	NCF21CZ-105AY	G CAP.	1 $\mu$ F 16V Z	*
C0217	NCB21HK-223AY	CHIP CAP.	0.022 $\mu$ F 50V K	*
C0218-21	NCT03CH-470AY	CHIP CAP.	47 pF 1600V H	*
C0305	QETN1CM-476Z	E CAP.	47 $\mu$ F 16V M	*
C0401	QETN1HM-226Z	E CAP.	22 $\mu$ F 50V M	*
C0402	QETN1CM-476Z	E CAP.	47 $\mu$ F 16V M	*
C0403-04	NCB21HK-272AY	CHIP CAP.	2700 pF 50V K	*
C0405-06	QETN1HM-225Z	E CAP.	2.2 $\mu$ F 50V M	*
C0407-10	NCF21EZ-104AY	G CAP.	0.1 $\mu$ F 25V Z	*
C0431	QETN1HM-226Z	E CAP.	22 $\mu$ F 50V M	*
C0432	QETN1CM-477Z	E CAP.	470 $\mu$ F 16V M	*
C0433-34	NCB21HK-272AY	CHIP CAP.	2700 pF 50V K	*
C0435	QETN1HM-225Z	E CAP.	2.2 $\mu$ F 50V M	*
C0436-39	NCF21EZ-104AY	G CAP.	0.1 $\mu$ F 25V Z	*
C0440	QETN1HM-225Z	E CAP.	2.2 $\mu$ F 50V M	*

△ Symbol No.	Part No.	Part Name	Description	Local
<b>C A P A C I T O R</b>				
C0451	NCF21CZ-105AY	C CAP.	1 $\mu$ F 16V Z	*
C0452	NCT03CH-100AY	CHIP CAP.	10 pF 1600V H	*
C0453	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	*
C0454	NCB21HK-473AY	CHIP CAP.	0.047 $\mu$ F 50V K	*
C0456	QETN1CM-107Z	E CAP.	100 $\mu$ F 16V M	*
C0457	NCF21CZ-105AY	C CAP.	1 $\mu$ F 16V Z	*
C0458	NCB21HK-473AY	CHIP CAP.	0.047 $\mu$ F 50V K	*
C0459	QETN1CM-107Z	E CAP.	100 $\mu$ F 16V M	*
C0460	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	*
C0461	NCT03CH-100AY	CHIP CAP.	10 pF 1600V H	*
C0462	NCF21CZ-105AY	C CAP.	1 $\mu$ F 16V Z	*
C0465	NCF21CZ-105AY	C CAP.	1 $\mu$ F 16V Z	*
C0501-02	NCF21CZ-105AY	C CAP.	1 $\mu$ F 16V Z	*
C0503-04	NCT03CH-100AY	CHIP CAP.	10 pF 1600V H	*
C0505	QETN1HM-106Z	E CAP.	10 $\mu$ F 50V M	*
C0507-08	QETN1HM-106Z	E CAP.	10 $\mu$ F 50V M	*
C0531	NCF21CZ-105AY	C CAP.	1 $\mu$ F 16V Z	*
C0532	NCT03CH-100AY	CHIP CAP.	10 pF 1600V H	*
C0536	QETN1HM-106Z	E CAP.	10 $\mu$ F 50V M	*
C0551	NCF21CZ-105AY	C CAP.	1 $\mu$ F 16V Z	*
C0553	NCT03CH-100AY	CHIP CAP.	10 pF 1600V H	*
C0555	QETN1HM-106Z	E CAP.	10 $\mu$ F 50V M	*
C0556	QETN1CM-476Z	E CAP.	47 $\mu$ F 16V M	*
C0557	QETN1HM-106Z	E CAP.	10 $\mu$ F 50V M	*
C0601-02	QETN1HM-106Z	E CAP.	10 $\mu$ F 50V M	*
C0603-04	QETN1CM-476Z	E CAP.	47 $\mu$ F 16V M	*
C0701-05	NCB21HK-222AY	CHIP CAP.	2200 pF 50V K	*
<b>C O I L</b>				
L0101-04	CE40344-4R7YL	INDUCTOR	4.7 $\mu$ H	*
L0701-05	CE40344-100YL	INDUCTOR	10 $\mu$ H	*
L0706	CE41433-001Z	BEADS CORE		*
<b>D I O D E</b>				
D0103	MA3062(M)-X	ZENER DIODE		*
D0201	MA3062(M)-X	ZENER DIODE		*
D0451	MA141WK-X	SI. DIODE		*
D0452	MA3062(M)-X	ZENER DIODE		*
D0453	MA141WK-X	SI. DIODE		*
D0454	MA3062(M)-X	ZENER DIODE		*
D0501-02	MA3150(M)-X	ZENER DIODE		*
D0503	MA3062-X	ZENER DIODE		*
D0532	MA3150(M)-X	ZENER DIODE		*
D0552	MA3150(M)-X	ZENER DIODE		*
<b>T R A N S I S T O R</b>				
Q0302	DTC144EK-X	DIGI. TRANSISTOR		*
Q0451-52	DTC323TK-X	DIGI. TRANSISTOR		*
Q0453	DTC144EK-X	DIGI. TRANSISTOR		*
Q0501	2SA1162(YG)-X	SI. TRANSISTOR		*
Q0502-03	DTC323TK-X	DIGI. TRANSISTOR		*
Q0531	2SA1162(YG)-X	SI. TRANSISTOR		*
Q0532	DTC323TK-X	DIGI. TRANSISTOR		*
Q0551	2SA1162(YG)-X	SI. TRANSISTOR		*
Q0553	DTC323TK-X	DIGI. TRANSISTOR		*
<b>I C</b>				
IC0101	SAA7367T-X	I. C (DIGI-MOS)		
IC0102	TMS57052BFT	I. C (M)		
IC0103	LC32464M-80X	I. C (D-RAM)		
IC0104-05	PCM1717E-X	I. C (MONO-ANA)		
IC0111	BA4558F-X	I. C (MONO-ANA)		
IC0201-02	UPC324G2-X	I. C (MONO-ANA)		
IC0301	TC4052BF-X	I. C (DIGI-MOS)		
IC0401	TDA7315D	I. C (DIGI-OTHER)		
IC0431	TDA7315D	I. C (DIGI-OTHER)		



△ Symbol No.	Part No.	Part Name	Description	Local
<b>I C</b>				
IC0451-52	BA4558F-X	I. C (MONO-ANA)		
IC0501	BA4558F-X	I. C (MONO-ANA)		
IC0551	BA4558F-X	I. C (MONO-ANA)		
<b>O T H E R S</b>				
EF0101-05	CE42482-103Y	EMI FILTER		*
J0001	GEMN036-004	PIN JACK		
J0002	GEMN061-001	PIN JACK		
K0101-02	CE42681-001Y	BEADS CORE		
K0104-07	CE42681-001Y	BEADS CORE		
K0108	CE41433-001Z	BEADS CORE		*
X0101	NAX0001-001X	CRYSTAL		

**P&P PW BOARD ASS'Y (SMB0P001B-U2)**

**[AV-32WP2EN(A)]**

△ Symbol No.	Part No.	Part Name	Description	Local
<b>VARIABLE RESISTOR</b>				
R0137	QVPE611-103HZ	V R	10kΩ B (NOISE)	
<b>RESISTOR</b>				
R0001	QRD12CJ-474SX	C R	470kΩ 1/2W J	*
<b>CAPACITOR</b>				
C0001	NCB21HK-222AY	CHIP CAP.	2200 pF 50V K	*
C0002	QETN1HM-106Z	E CAP.	10 μF 50V M	*
C0003	QETN1CM-227Z	E CAP.	220 μF 16V M	*
C0004-05	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0006	QETC1HM-107Z	E CAP.	100 μF 50V M	*
C0007	QETN1CM-107Z	E CAP.	100 μF 16V M	*
C0008	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0100	QETN1CM-227Z	E CAP.	220 μF 16V M	*
C0102-04	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	*
C0106-07	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	*
C0108-09	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0110	NCB21HK-222AY	CHIP CAP.	2200 pF 50V K	*
C0111	QETN1HM-335Z	E CAP.	3.3 μF 50V M	*
C0112	QFLC1HJ-683MZ	M CAP.	0.068 μF 50V J	*
C0113	QETN1HM-105Z	E CAP.	1 μF 50V M	*
C0114	NCB21HK-332AY	CHIP CAP.	3300 pF 50V K	*
C0115	QETN1HM-335Z	E CAP.	3.3 μF 50V M	*
C0116	QETN1CM-107Z	E CAP.	100 μF 16V M	*
C0117	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0118	NCT03CH-102AY	CHIP CAP.	1000 pF 1600V H	*
C0119	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0120	QETN1HM-105Z	E CAP.	1 μF 50V M	*
C0121	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	*
C0122	QAT3110-100A	TRIM CAP.	10 pF 100V	
C0123	QETN1CM-107Z	E CAP.	100 μF 16V M	*
C0124	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0126	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0127	NCT03CH-7R0AY	CHIP CAP.	7 pF 1600V H	*
C0128	NCT03CH-120AY	CHIP CAP.	12 pF 1600V H	*
C0129	QETN1CM-107Z	E CAP.	100 μF 16V M	*
C0130	NCT03CH-102AY	CHIP CAP.	1000 pF 1600V H	*
C0131	QETN1HM-474Z	E CAP.	0.47 μF 50V M	*
C0132	NCT03CH-6R0AY	CHIP CAP.	6 pF 1600V H	*
C0133-34	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	*
C0135	QETN1HM-336Z	E CAP.	33 μF 50V M	*
C0136	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0137	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	*
C0138	QETN1HM-474Z	E CAP.	0.47 μF 50V M	*
C0139	QAT3110-100A	TRIM CAP.	10 pF 100V	
C0140	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*

△ Symbol No.	Part No.	Part Name	Description	Local
<b>CAPACITOR</b>				
C0141	NCT03CH-120AY	CHIP CAP.	12 pF 1600V H	*
C0142	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0143-44	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	*
C0145	QETN1HM-105Z	E CAP.	1 μF 50V M	*
C0152	NCT03CH-121AY	CHIP CAP.	120 pF 1600V H	*
C0153	NCT03CH-181AY	CHIP CAP.	180 pF 1600V H	*
C0154-55	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0160	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C0161	NCT03CH-391AY	CHIP CAP.	390 pF 1600V H	*
C0162	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0163	QETN1CM-107Z	E CAP.	100 μF 16V M	*
C0164-65	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0304	NCB21HK-332AY	CHIP CAP.	3300 pF 50V K	*
C0305	NCF21EZ-474AY	CHIP C CAP.	0.47 μF 25V Z	*
C0306	QEN61HM-105Z	BP E CAP.	1 μF 50V M	*
C0307	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0308	NCB21HK-332AY	CHIP CAP.	3300 pF 50V K	*
C0309	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0310-11	NCT03CH-120AY	CHIP CAP.	12 pF 1600V H	*
C0312-16	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0317	QETN1CM-477Z	E CAP.	470 μF 16V M	*
C0318-20	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0321-23	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C0601	NCB21HK-183AY	CHIP CAP.	0.018 μF 50V K	*
C0602	QETN1CM-477Z	E CAP.	470 μF 16V M	*
C0603	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0604	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C0605	QETN1HM-106Z	E CAP.	10 μF 50V M	*
C0606	QETN1HM-105Z	E CAP.	1 μF 50V M	*
C0801	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C0802-12	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0813	NCB21EK-104AY	CHIP CAP.	0.1 μF 25V K	*
C0814-32	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0833	NCB21EK-104AY	CHIP CAP.	0.1 μF 25V K	*
C0834-40	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0841	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C0842	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0843	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C0844	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0845	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C0846	NCT03CH-390AY	CHIP CAP.	39 pF 1600V H	*
C0850	QETN1HM-106Z	E CAP.	10 μF 50V M	*
C0851-52	NCB21EK-104AY	CHIP CAP.	0.1 μF 25V K	*
C0853	QETN1HM-106Z	E CAP.	10 μF 50V M	*
C0854-55	NCB21EK-104AY	CHIP CAP.	0.1 μF 25V K	*
C0856	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C0857	QETN1HM-475Z	E CAP.	4.7 μF 50V M	*
C0858	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0859-64	NCT03CH-220AY	CHIP CAP.	22 pF 1600V H	*
C0865	QETN1HM-106Z	E CAP.	10 μF 50V M	*
C0866-71	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0872	QEN61HM-105Z	BP E CAP.	1 μF 50V M	*
C0873-74	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0875	QEN61HM-105Z	BP E CAP.	1 μF 50V M	*
<b>TRANSFORMER</b>				
T0001	QOR0626-001	I. F. TRANSF.		*
T0101	CELT001-306	C. WAVE TRANSF.		*
T0102	CELT040-301	S. I. F. TRANSF.		*
T0103	CELT001-307	C. WAVE TRANSF.		*
<b>COIL</b>				
L0001	CE41131-270Y	CHIP INDUCTOR	27 μH	*
L0002-03	CE41131-8R2Y	INDUCTOR	8.2 μH	*
L0004	CE41131-100Y	INDUCTOR	10 μH	*
L0100	CELP041-R47	PEAKING COIL	0.47 μH	*
L0102	CE41131-1R5Y	INDUCTOR	1.5 μH	*
L0103	CE41131-120Y	INDUCTOR	12 μH	*
L0104-06	CE41131-8R2Y	INDUCTOR	8.2 μH	*
L0107	CE41131-2R2Y	INDUCTOR	2.2 μH	*

△ Symbol No.	Part No.	Part Name	Description	Local
L0108	CE41131-8R2Y	INDUCTOR	8.2 $\mu$ H	*
L0109	CE41131-5R6Y	INDUCTOR	5.6 $\mu$ H	*
L0151-52	CE41131-100Y	INDUCTOR	10 $\mu$ H	*
L0153	CE41131-5R6Y	INDUCTOR	5.6 $\mu$ H	*
L0160	CE41131-100Y	INDUCTOR	10 $\mu$ H	*
L0165-66	CE41131-4R7Y	INDUCTOR	4.7 $\mu$ H	*
L0801-03	CE40344-4R7YL	INDUCTOR	4.7 $\mu$ H	*
<b>D I O D E</b>				
D0100-03	1SS85-T5	SI. DIODE		
<b>T R A N S I S T O R</b>				
Q0100	2SC5083 (L-P)-T	SI. TRANSISTOR		*
Q0101-04	DTC144EKA-X	DIGI. TRANSISTOR		
Q0105	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0106-07	DTC144EKA-X	DIGI. TRANSISTOR		
Q0108-09	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0160	DTC144EKA-X	DIGI. TRANSISTOR		
Q0161	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0162	2SA1162 (YG)-X	SI. TRANSISTOR		*
Q0163	DTC144EKA-X	DIGI. TRANSISTOR		
Q0164	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0166	2SA1162 (YG)-X	SI. TRANSISTOR		*
Q0167	DTC144EKA-X	DIGI. TRANSISTOR		
Q0168-69	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0170	DTC144EKA-X	DIGI. TRANSISTOR		
Q0171	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0600-01	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0801-04	2SA1162 (YG)-X	SI. TRANSISTOR		*
Q0805	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0806-07	2SA1162 (YG)-X	SI. TRANSISTOR		*
Q0808-09	2SC2712 (YG)-X	SI. TRANSISTOR		*
<b>I C</b>				
IC0101	TA8865BN	I. C (MONO-ANA)		
IC0102	LA7975	I. C (MONO-ANA)		
IC0103	TC4W66F-X	I. C. (DIGI-MOS)		
IC0301	TDA9141/N2	I. C (MONO-ANA)		
IC0302	TDA4665	I. C (MONO-ANA)		*
IC0303	LA7016	I. C (MONO-ANA)		*
IC0801	SAB9077H/N4	I C		
IC0802	MSM548262-60-X	I. C (D-RAM)		*
IC0803	AN5860	I. C (MONO-ANA)		*
IC0804	TC4066BF-W	I. C (DIGI-MOS)		
IC0805	CXA1875AM-X	I. C (MONO-ANA)		
<b>O T H E R S</b>				
CF0101	CSB503F30-T2	CER. RESONATOR		*
CF0102-03	FTP40.40MF	CERAMIC FILTER		*
CF0160	TPS5.5MW	CERAMIC FILTER		*
CF0161-62	SFE5.5MC2	CERAMIC FILTER		
CF0163-65	SFE6.0MC	CERAMIC FILTER		
CF0166	CSB503E5	CER. RESONATOR		*
K0001	CE41433-001Z	BEADS CORE		*
△ R0603	QRZ0054-470M	F R	47 $\Omega$ 1/4W J	*
SF0100	QAX0316-001	SAW FILTER		*
SF0101	CE42574-702	SAW FILTER		
SF0102	CE42606-701	SAW FILTER		
TU0001	CEEK481-A01	TUNER		*
X0301	CE40749-001Z	CRYSTAL		*
X0302	CE40668-001Z	CRYSTAL		*

P&P PW BOARD ASS'Y (SMB0P701B-U2)

[AV-32WP2EP(A)]

△ Symbol No.	Part No.	Part Name	Description	Local
VARIABLE RESISTOR				
R0137	QVPE611-103HZ	V R	10kΩB(NOISE)	
RESISTOR				
R0001	QRD12CJ-474SX	C R	470kΩ 1/2W J	*
CAPACITOR				
C0001	NCB21HK-222AY	CHIP CAP.	2200 pF 50V K	*
C0002	QETN1HM-106Z	E CAP.	10 μF 50V M	*
C0003	QETN1CM-227Z	E CAP.	220 μF 16V M	*
C0004-05	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0007	QETN1CM-107Z	E CAP.	100 μF 16V M	*
C0008	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0100	QETN1CM-227Z	E CAP.	220 μF 16V M	*
C0102-04	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	*
C0106-07	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	*
C0108-09	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0110	NCB21HK-222AY	CHIP CAP.	2200 pF 50V K	*
C0111	QETN1HM-335Z	E CAP.	3.3 μF 50V M	*
C0112	QFLC1HJ-683MZ	M CAP.	0.068 μF 50V J	*
C0113	QETN1HM-105Z	E CAP.	1 μF 50V M	*
C0114	NCB21HK-332AY	CHIP CAP.	3300 pF 50V K	*
C0115	QETN1HM-335Z	E CAP.	3.3 μF 50V M	*
C0116	QETN1CM-107Z	E CAP.	100 μF 16V M	*
C0117	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0118	NCT03CH-102AY	CHIP CAP.	1000 pF 1600V H	*
C0119	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0120	QETN1HM-105Z	E CAP.	1 μF 50V M	*
C0121	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	*
C0122	QAT3110-100A	TRIM CAP.	10 pF 100V	*
C0123	QETN1CM-107Z	E CAP.	100 μF 16V M	*
C0124	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0126	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0127	NCT03CH-7R0AY	CHIP CAP.	7 pF 1600V H	*
C0128	NCT03CH-120AY	CHIP CAP.	12 pF 1600V H	*
C0129	QETN1CM-107Z	E CAP.	100 μF 16V M	*
C0130	NCT03CH-102AY	CHIP CAP.	1000 pF 1600V H	*
C0131	QETN1HM-474Z	E CAP.	0.47 μF 50V M	*
C0132	NCT03CH-6R0AY	CHIP CAP.	6 pF 1600V H	*
C0133-34	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	*
C0135	QETN1HM-336Z	E CAP.	33 μF 50V M	*
C0136	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0137	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	*
C0138	QETN1HM-474Z	E CAP.	0.47 μF 50V M	*
C0139	QAT3110-100A	TRIM CAP.	10 pF 100V	*
C0140	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0141	NCT03CH-120AY	CHIP CAP.	12 pF 1600V H	*
C0142	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0143-44	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	*
C0145	QETN1HM-105Z	E CAP.	1 μF 50V M	*
C0146-47	NCB21HK-472AY	CHIP CAP.	4700 pF 50V K	*
C0152	NCT03CH-121AY	CHIP CAP.	120 pF 1600V H	*
C0153	NCT03CH-181AY	CHIP CAP.	180 pF 1600V H	*
C0154-55	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0160	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C0161	NCT03CH-391AY	CHIP CAP.	390 pF 1600V H	*
C0162	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0163	QETN1CM-107Z	E CAP.	100 μF 16V M	*
C0164-65	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0304	NCB21HK-332AY	CHIP CAP.	3300 pF 50V K	*
C0305	NCF21EZ-474AY	CHIP C CAP.	0.47 μF 25V Z	*
C0306	QEN61HM-105Z	BP E CAP.	1 μF 50V M	*
C0307	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0308	NCB21HK-332AY	CHIP CAP.	3300 pF 50V K	*
C0309	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*

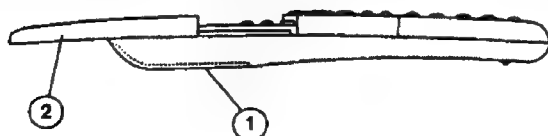
△ Symbol No.	Part No.	Part Name	Description	Local
<b>CAPACITOR</b>				
C0310-11	NCT03CH-120AY	CHIP CAP.	12 pF 1600V H	*
C0312-16	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0317	QETN1CM-477Z	E CAP.	470 μF 16V M	*
C0318-20	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0321-23	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C0601	NCB21HK-183AY	CHIP CAP.	0.018 μF 50V K	*
C0602	QETN1CM-477Z	E CAP.	470 μF 16V M	*
C0603	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	*
C0604	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C0605	QETN1HM-106Z	E CAP.	10 μF 50V M	*
C0606	QETN1HM-105Z	E CAP.	1 μF 50V M	*
C0801	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C0802-12	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0813	NCB21EK-104AY	CHIP CAP.	0.1 μF 25V K	*
C0814-32	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0833	NCB21EK-104AY	CHIP CAP.	0.1 μF 25V K	*
C0834-40	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0841	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C0842	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0843	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C0844	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0845	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C0846	NCT03CH-390AY	CHIP CAP.	39 pF 1600V H	*
C0850	QETN1HM-106Z	E CAP.	10 μF 50V M	*
C0851-52	NCB21EK-104AY	CHIP CAP.	0.1 μF 25V K	*
C0853	QETN1HM-106Z	E CAP.	10 μF 50V M	*
C0854-55	NCB21EK-104AY	CHIP CAP.	0.1 μF 25V K	*
C0856	QETN1CM-476Z	E CAP.	47 μF 16V M	*
C0857	QETN1HM-475Z	E CAP.	4.7 μF 50V M	*
C0858	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0859-64	NCT03CH-220AY	CHIP CAP.	22 pF 1600V H	*
C0865	QETN1HM-106Z	E CAP.	10 μF 50V M	*
C0866-71	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0872	QEN61HM-105Z	BP E CAP.	1 μF 50V M	*
C0873-74	NCF21EZ-104AY	C CAP.	0.1 μF 25V Z	*
C0875	QEN61HM-105Z	BP E CAP.	1 μF 50V M	*
<b>TRANSFORMER</b>				
T0001	QQR0626-001	I. F. TRANSF.		*
T0101	CELT001-306	C. WAVE TRANSF.		*
T0102	CELT040-301	S. I. F. TRANSF.		*
T0103	CELT001-307	C. WAVE TRANSF.		*
<b>COIL</b>				
L0001	GE41131-270Y	CHIP INDUCTOR	27 μH	*
L0002-03	GE41131-8R2Y	INDUCTOR	8.2 μH	*
L0004	GE41131-100Y	INDUCTOR	10 μH	*
L0100	CELP041-R47	PEAKING COIL	0.47 μH	*
L0102	GE41131-1R5Y	INDUCTOR	1.5 μH	*
L0103	GE41131-120Y	INDUCTOR	12 μH	*
L0104-06	GE41131-8R2Y	INDUCTOR	8.2 μH	*
L0107	GE41131-2R2Y	INDUCTOR	2.2 μH	*
L0108	GE41131-8R2Y	INDUCTOR	8.2 μH	*
L0109	GE41131-5R6Y	INDUCTOR	5.6 μH	*
L0151-52	GE41131-100Y	INDUCTOR	10 μH	*
L0153	GE41131-5R6Y	INDUCTOR	5.6 μH	*
L0160	GE41131-100Y	INDUCTOR	10 μH	*
L0165-66	GE41131-4R7Y	INDUCTOR	4.7 μH	*
L0801-03	GE40344-4R7YL	INDUCTOR	4.7 μH	*
<b>DIODE</b>				
D0100-04	1SS85-T5	SI. DIODE		*
<b>TRANSISTOR</b>				
Q0100	2SC5083 (L-P)-T	SI. TRANSISTOR		*
Q0101-04	DTC144EKA-X	DIGI. TRANSISTOR		*

△ Symbol No.	Part No.	Part Name	Description	Local
<b>T R A N S I S T O R</b>				
Q0105	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0106-07	DTC144EKA-X	DIGI. TRANSISTOR		*
Q0108-09	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0160	DTC144EKA-X	DIGI. TRANSISTOR		*
Q0161	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0162	2SA1162 (YG)-X	SI. TRANSISTOR		*
Q0163	DTC144EKA-X	DIGI. TRANSISTOR		*
Q0164	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0166	2SA1162 (YG)-X	SI. TRANSISTOR		*
Q0167	DTC144EKA-X	DIGI. TRANSISTOR		*
Q0168-69	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0170	DTC144EKA-X	DIGI. TRANSISTOR		*
Q0171	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0600-01	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0801-04	2SA1162 (YG)-X	SI. TRANSISTOR		*
Q0805	2SC2712 (YG)-X	SI. TRANSISTOR		*
Q0806-07	2SA1162 (YG)-X	SI. TRANSISTOR		*
Q0808-09	2SC2712 (YG)-X	SI. TRANSISTOR		*
<b>I C</b>				
IC0101	TA8865BN	I. C. (MONO-ANA)		
IC0102	LA7975	I. C. (MONO-ANA)		
IC0103	TC4W66F-X	I. C. (DIGI-MOS)		
IC0301	TDA9141/N2	I. C. (MONO-ANA)		
IC0302	TDA4665	I. C. (MONO-ANA)		*
IC0303	LA7016	I. C. (MONO-ANA)		*
IC0801	SAB9077H/N4	I C		
IC0802	MSM548262-60-X	I. C. (D-RAM)		*
IC0803	AN5860	I. C. (MONO-ANA)		*
IC0804	TC4066BF-W	I. C. (DIGI-MOS)		
IC0805	CXA1875AM-X	I. C. (MONO-ANA)		
<b>O T H E R S</b>				
CF0101	GSB503F30-T2	CER. RESONATOR		*
CF0102-03	FTP40. 40MF	CERAMIC FILTER		*
CF0160	TPS5. 5MW	CERAMIC FILTER		*
CF0161-62	SFE5. 5MC2	CERAMIC FILTER		
CF0163-65	SFE6. 0MC	CERAMIC FILTER		
CF0166	GSB503E5	CER. RESONATOR		*
K0001	CE41433-001Z	BEADS CORE		*
△ R0603	QRZ0054-470M	F R	47 Ω 1/4W J	*
SF0100	QAX0316-001	SAW FILTER		*
SF0101	CE42574-702	SAW FILTER		
SF0102	CE42606-701	SAW FILTER		
TU0001	CEEK481-A01	TUNER		*
X0301	CE40749-001Z	CRYSTAL		*
X0302	CE40668-001Z	CRYSTAL		*

# **AUTO ASPECT MODULE PW BOARD ASS'Y [SJF0W001A(U)]**

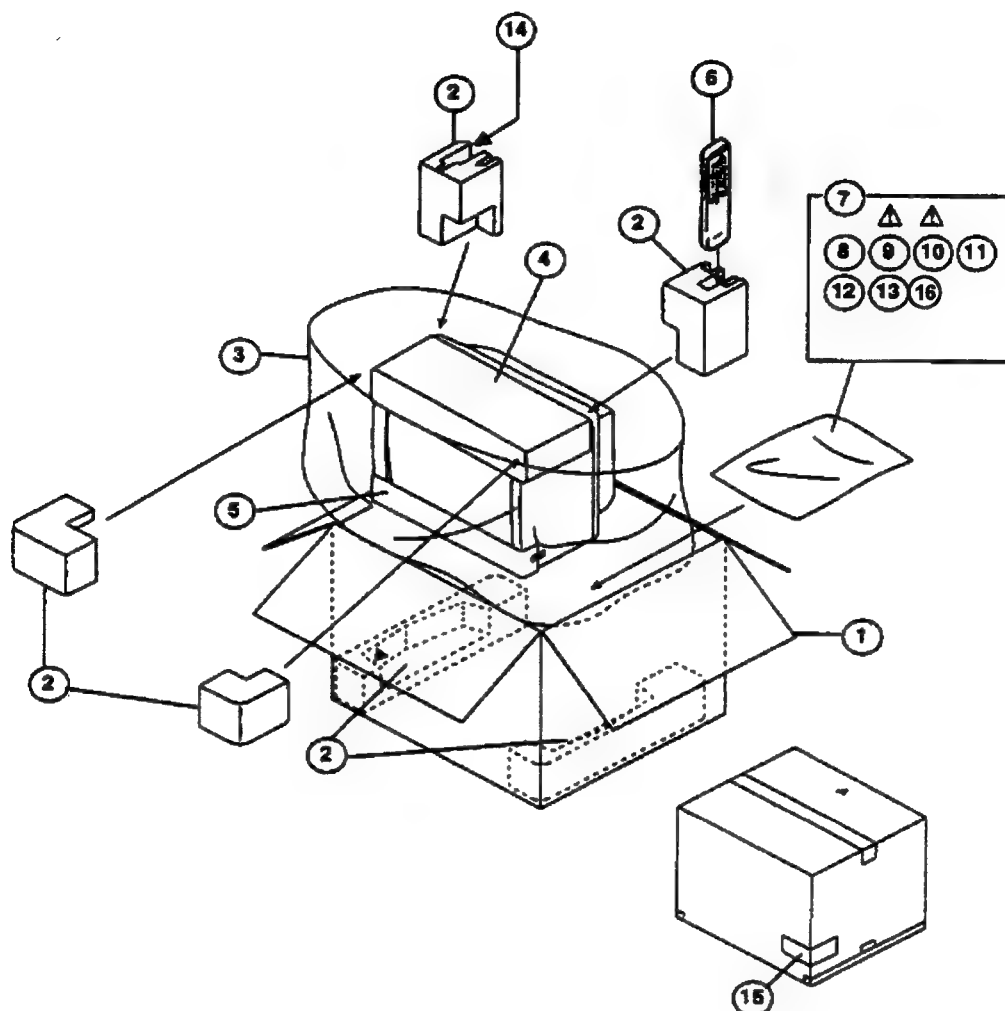
△ Symbol No.	Part No.	Part Name	Description	Local
	SJF0W001A (U)	AUTO ASPECT MODULE PW		

# **REMOTE CONTROL UNIT PARTS LIST(RM-C791-1E)**



△ Ref. No.	Part No.	Part Name.	Description	Local
1	BGV110201A	BATTERY COVER		*
2	BGV110305A	SLIDE COVER		*

## PACKING



## PACKING PARTS LIST

△ Ref. No.	Part No.	Part Name	Description	Local
1	AEM1002-A43-E	PACKING CASE		*
2	CP11549-00B-E	PACKING CUSHION		*
3	AEM1004-A07-E	SET COVER		*
4	AEM3022-003-E	CUSHION SHEET		*
5	AEM3022-004-E	CUSHION SHEET	AV-32WP2EP (A)	*
6	CP40193-010-E	CUSHION SHEET	AV-32WP2EN (A)	*
7	RM-C791-1E	REMOCON UNIT		*
8	AEM3021-001-E	POLY BAG		*
△ 8	BT-20066A-E	ADDRESS CARD		*
△ 9	CQ40353-001-E	INST. BOOK		*
△ 10	CQ40352-001-E	INST. BOOK		*
11	BT-54008-1E	WARRANTY CARD		*
12	CM22966-011-E	DEC. SHEET		*
13	LCT0065-001A-U	WARNING SHEET		*
14	AEEAK001-200	RF CABLE		*
15	AEM1038-060-E	EURO LABEL		*
16	32WP2ENA-HSAE	S. DIAGRAM	AV-32WP2EN (A) ONLY	*

# JVC

## SPECIFICATIONS

Model	AV-32WP2EP	AV-32WZ2EP	AV-28WZ2EP
Item			
TV RF systems	CCIR L, B/G, I		
Colour systems	PAL, SECAM (NTSC 3.58 / 4.43 MHz only in EXT modes)		
Channels and frequencies	F2-F10, F21-F69, E2-E12, E21-E69, S1-S41, X, Y, Z, Z+1, Z+2, A-H, H+1, H+2 * Receives French cable TV channel frequencies 116-172 MHz and 220-469MHz		
Sound-multiplex systems	A2/NICAM (B/G, L) system		
Teletext systems	Fastext (United Kingdom system) / TOP (German system) / WST (standard system)		
Power requirements	AC 220 – 240 V, 50 Hz		
Power consumption	Maximum 266 W, Average 161 W, Standby 0.8 W	Maximum 248 W, Average 151 W, Standby 0.8 W	Maximum 242 W, Average 147 W, Standby 0.8 W
Picture tube size	Visible area 76 cm (measured diagonally)		Visible area 66 cm (measured diagonally)
Audio output	Rated Power output 20 W + 20 W + 5 W	Rated Power output 20 W + 20 W	
Speakers	10 cm round x 2, 3.5 cm round x 2, (10 cm x 3 cm oval) x 1	10 cm round x 2, 3.5 cm round x 2	
External input / output	EXT-1, EXT-2, EXT-3	21-pin Euroconnector (SCART)	
	EXT-4	VIDEO IN (RCA) AUDIO L / R IN (RCA) S-VIDEO IN (Mini Din 4-pin)	
	AUDIO OUT	(Variable out (0-1 Vrms), low impedance) CENTRE output (RCA) FRONT L/R output (RCA) SURROUND REAR L/R output (RCA)	
	Headphone jack (stereo mini jack, dia. 3.5 mm)		
Dimensions (W x H x D)	805 mm x 550 mm x 550 mm		716 mm x 489 mm x 496 mm
Weight	50.3 kg	50.2 kg	36.3 kg
Accessories	Remote control unit RM-C791 x 1 AAA (R03) dry cell battery x 2	Remote control unit RM-C793 x 1 AAA (R03) dry cell battery x 2	

*Design and specifications subject to change without notice.*

Pictures displayed on the screen using this TV's image-processing functions should not be shown for any commercial or demonstration purpose in public places (tearooms and halls in hotels, etc.) without the consent of the owners of copyright of the original picture sources, as this constitutes an infringement of copyright.

# JVC

VICTOR COMPANY OF JAPAN, LIMITED

## COLOUR TELEVISION

# AV-32WP2EN / EP AV-32WZ2EN / EP AV-28WZ2EN / EP

## INSTRUCTIONS

Thank you for purchasing this JVC colour television.  
To ensure your complete understanding, please read this manual thoroughly before operation.

### WARNING:

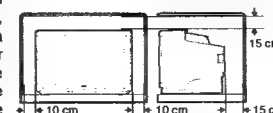
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

### CAUTION:

TO ENSURE PERSONAL SAFETY, OBSERVE THE FOLLOWING RULES REGARDING THE USE OF THIS UNIT.

1. Operate only from the power source specified (AC 220 - 240 V, 50 Hz) on the unit.
2. Avoid damaging the AC plug and power cord.
3. Avoid improper installation and never position the unit where good ventilation is unattainable.

When installing this television, distance recommendations must be maintained between the floor and wall, as well as instalment in a tightly enclosed area or piece of furniture. Adhere to the minimum distance guidelines shown for safe operation.



4. Do not allow objects or liquid into the cabinet openings.
5. In the event of a fault, unplug the unit and call a service technician. Do not attempt to repair it yourself or remove the rear cover.

When you don't use this TV set for a long period of time, be sure to disconnect the power plug from the AC outlet.

## CONTENTS

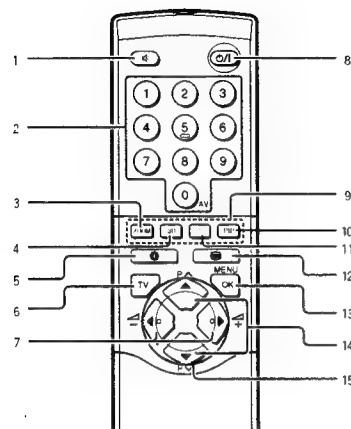
Locations of remote control buttons .....	2
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AV-32WZ2EN  
AV-32WZ2EP  
AV-28WZ2EN  
AV-28WZ2EP



## Locations of remote control buttons

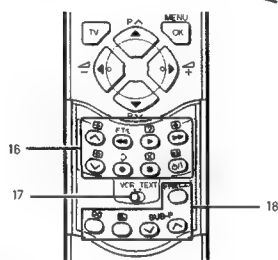
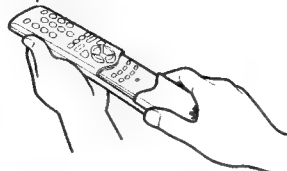
### OUTSIDE BUTTONS



① Mute button	p.11
② Number buttons	p.7
③ ZOOM button	p.13
④ 3D button	p.20
⑤ Information button	p.16
⑥ TV button	
⑦ Volume +/- buttons	p.8
⑧ Standby button	p.6, 8
⑨ Colour buttons	
⑩ PIP button (AV-32WP2EN and AV-32WP2EP only.)	p.14
⑪ P. BASS button	p.11
⑫ TV/text button	p.18
⑬ OK button	
⑭ PR channel V/Δ buttons	p.7
⑮ ◀▶ / ▲▼ buttons	
⑯ Teletext/VCR control buttons	p.18
⑰ VCR/TEXT selector switch	
<ul style="list-style-type: none"> <li>When switched to the VCR side, the ⑮ buttons function as the JVC VCR control buttons.</li> </ul>	
<b>Notes:</b> <ul style="list-style-type: none"> <li>For details on button functions, see the JVC VCR manual.</li> <li>Depending on your VCR, the remote control may not operate perfectly, and may not even control the VCR at all.</li> <li>When switched to the TEXT side, the ⑮ buttons function as teletext control buttons.</li> </ul>	
⑰ PIP control buttons (AV-32WP2EN and AV-32WP2EP only.)	p.14

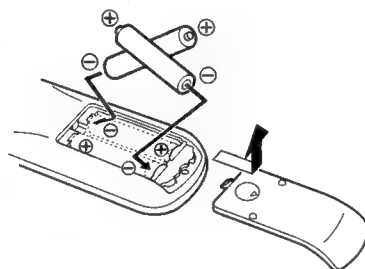
### INSIDE BUTTONS

How to open the cover.



### Inserting batteries into your remote control

Use two AAA/R03 dry cell batteries. Insert two batteries, observing the + and - polarities, inserting the - end first.



#### CAUTION:

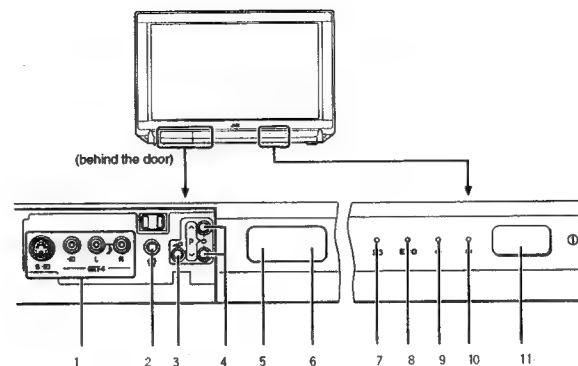
- Follow the cautions printed on the batteries.

#### Notes:

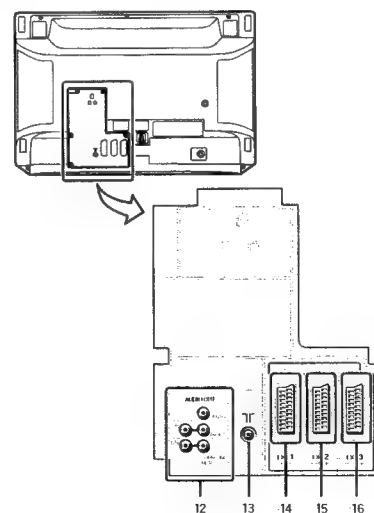
- Battery life is approx. six months to one year, depending on frequency of use.
- If the remote control operates erratically, replace the batteries.
- We recommend that you use the supplied batteries temporarily and replace them as soon as operation becomes erratic. The supplied batteries are for operational testing of the remote control, not for regular use.

## Locations of TV buttons and parts

### FRONT PANEL



### REAR PANEL

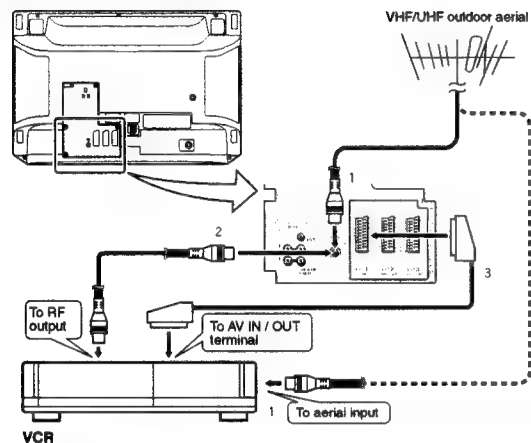


① EXT-4 terminals	p.4, 22
② Headphone jack (mini jack)	p.5
③ Volume button	p.9
④ Up/down buttons	p.9
(You can use this button as the V/Δ buttons of the PR channel. Pressing the ③ Volume button makes this button function as the Volume +/- buttons.)	
⑤ Remote control sensor	
⑥ ECO sensor	
⑦ 3D lamp	p.20
⑧ ECO lamp	p.12
⑨ Sleep timer lamp	p.16
⑩ Power lamp	p.6, 8
⑪ Main power button	p.6, 8
⑫ AUDIO OUT terminals	p.27
⑬ Aerial socket	p.4
⑭ EXT-1 terminal	p.4, 22
⑮ EXT-2 terminal	p.4, 22
⑯ EXT-3 terminal	p.4, 22

# PREPARATION AND BASIC OPERATION

## 1. Connecting the aerial and VCR

If not connecting a VCR, do 1 only.  
If connecting a VCR, proceed 1 → 2 → 3.



### Notes:

- For further details, refer to manuals provided with the devices you are connecting.
- Connecting cables are not supplied.
- You can view video from a VCR without doing 3. For details, refer to the manual provided with your VCR.
- Connect the S-VHS VCR to either the EXT-2 or EXT-3 connector. When the S-VHS VCR is connected to the EXT-1 connector, S-VIDEO input can not be selected.

## 2. Connecting other external devices

### Conditions:

- This TV set has external device connectors, EXT-1 to EXT-4 to which you can connect a VCR. However, there are some differences in functions among them. Consult the following table before making connections.

	EXT-1	EXT-2	EXT-3	EXT-4 (front)
VIDEO IN	✓	✓ <sup>1</sup>	✓ <sup>1</sup>	✓ <sup>1</sup>
VIDEO OUT	✓ <sup>2</sup>	✓ <sup>3</sup>	—	—
S-VIDEO IN	—	✓ <sup>1</sup>	✓ <sup>1</sup>	✓ <sup>1</sup>
S-VIDEO OUT	—	—	—	—
RGB IN	✓	✓	✓	✓
AUDIO-L IN	✓	✓	✓	✓
AUDIO-R IN	✓	✓	✓	✓
AUDIO-L OUT	✓ <sup>2</sup>	✓ <sup>3</sup>	—	—
AUDIO-R OUT	✓ <sup>2</sup>	✓ <sup>3</sup>	—	—
Others	<ul style="list-style-type: none"> <li>Automatic detection and switching of input mode.</li> <li>Automatic detection and switching of ZOOM mode.</li> </ul>			

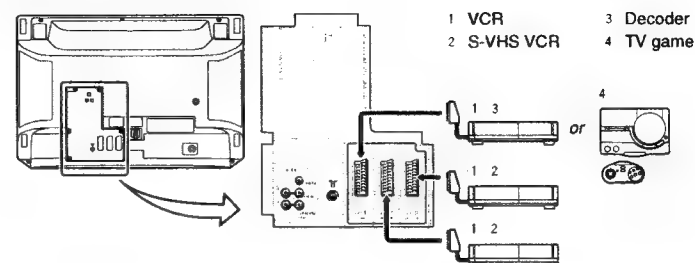
<sup>1</sup> Select VIDEO or S-VIDEO mode from the EXT SETTING menu. For details, see page 22 "EXT SETTING".

<sup>2</sup> Only the TV broadcast is output. Even when a SUB picture is displayed, the output TV broadcast PR channel does not change. However, when another PR channel is being watched in the SUB picture, if the SWAP function is used the output TV broadcast PR channel is switched.

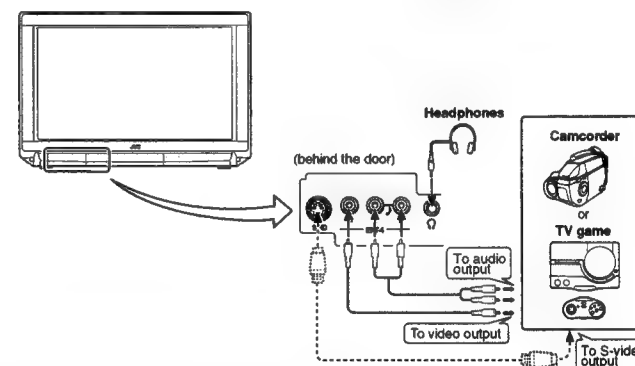
<sup>3</sup> TV broadcasts or inputs from EXT-1, 3 or 4 can be output. For details, see page 22 "DUBBING".

- Use headphones with a stereo mini jack (dia. 3.5 mm). When using headphones, refer to "To listen to the sound using headphones" on page 8.
- For further details, refer to manuals provided with the devices you are connecting.
- Connecting cables are not supplied.
- For details on how to connect the AUDIO OUT terminals on your TV and external devices such as the audio amplifiers or speakers, see page 27.

## Devices which can be connected to the terminals on the rear panel

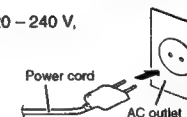


## Devices which can be connected to the terminals on the front panel



## 3. Connecting the power cord

Insert the power plug into an AC outlet (AC 220 – 240 V, 50 Hz).



## PREPARATION AND BASIC OPERATION

### 4. Turning the power and TV on

1. Press the Main power button on the TV to turn the power on.

 The Power lamp lights red (power on), then green (TV on).

**If the power lamp stays red and does not change to green:**  
Your TV is in the standby mode. Press the Standby button on the remote control to turn your TV on.

**Note:**

- You can also press the PR channel V/Δ button, a number button or the up/down button on the front panel to turn the TV on.

### 5. Initial Settings

- When the TV is first turned ON, it enters into the initial setting mode, and the JVC logo is displayed.

**Note:**

- The TV enters into the initial setting mode only once when the TV is first turned ON. If you turn the TV off or exit from the setting menu while performing the initial settings by mistake, you must redo the initial settings, "LANGUAGE" and "AUTO PROGRAM", following the procedures described in page 23.

1. Press any button on the remote control.

Language menu appears.

#### Selecting the on-screen language

You can select your language from ten languages listed on the LANGUAGE menu. The displayed menus on the screen are described in the selected language.

2. Press ▼/▲ button to select ENGLISH.



3. Press OK button.

English is set for the on-screen display description, and the COUNTRY menu appears.

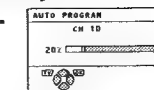


#### Automatically allocating stations to PR channels

To view a TV programme, you must first allocate broadcast stations to PR channels. You can automatically allocate up to 99 stations to PR channels PR1 to PR 99 on this TV. Broadcast stations that can be received are automatically determined and set to PR channels.

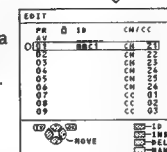
4. Press ▼/▲ and ◀/▶ button to select your country, then press blue button.

Broadcast stations are automatically allocated to the PR channels.



The EDIT menu is displayed after completed the allocation.

- If you want to edit PR channels or allocate a station to PR0 (AV) channel, see page 24 "EDIT/MANUAL" for procedural description.



- The procedure is complete. Press the TV button to exit the menu.

### 6. Viewing a television programme

1. Select a PR channel.

#### Selection



- Press the PR channel V/Δ button.

#### Direct channel selection

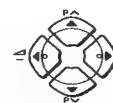
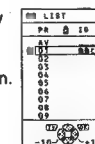


- Press the corresponding number buttons.  
Example: To select channel 6, press "6".  
To select channel 12, press "1" and "2".

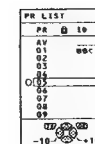
#### To use the PR LIST to select a PR channel



1. Press Information button repeatedly to select PR LIST.  
The PR LIST appears.
- To exit the PR LIST, press TV button.



2. Press ▼/▲ button to select a PR channel.
  - Press ▶ button to view the next page of the PR LIST.
  - Press ◀ button to view the previous page of the PR LIST.



3. Press OK button.

**Note:**

- If you want to quit automatic allocation in the middle, press the TV button.

**Notes:**

- If the picture is not clear or no colour appears, change the colour system manually (see page 11 for details).
- Enter "0" when selecting an AV channel (PR 0 channel).
- If your TV is AV-32WP2EN or AV-32WP2EP, the MULTI-PICTURE function can be used to select a PR channel. For details, refer to "MULTI-PICTURE" on page 15.

**Note:**

- The ◻ mark will appear on the PR channel when the CHILD LOCK setting is on (see page 17).

## PREPARATION AND BASIC OPERATION

### 2. Press the Volume $\nabla/\Delta$ button.



The Volume level indicator appears and the volume changes as you press the Volume  $\nabla/\Delta$  buttons.



### Turning the TV and power off

#### 1. Press the Standby button to turn the TV off.



The Power lamp changes from green to red.  
The TV enters standby mode.

#### 2. Press the Main power button on the TV to turn the main power off.



The Power lamp goes off.

#### Note:

- To save energy, we recommend that you turn the main power off if you do not plan to use your TV for a long time.

### To listen to the sound using headphones

#### Condition:

Connect headphones to the TV.

#### 1. Press OK button.

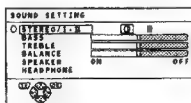


The MENU appears.



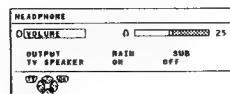
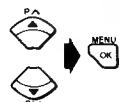
#### 2. Press $\nabla/\Delta$ button to select SOUND SETTING, then press OK button.

The SOUND SETTING menu appears.

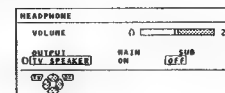
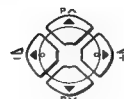


#### 3. Press $\nabla/\Delta$ button to select HEADPHONE, then press OK button.

The HEADPHONE menu appears.



#### 4. Press $\nabla/\Delta$ button to select TV SPEAKER, then press $\nabla/\Delta$ button to select ON or OFF.



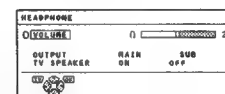
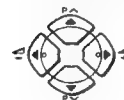
ON: The sound from the TV speakers is not turned off even when the headphones are connected.

OFF: The sound from the TV speakers is turned off when the headphones are connected.

#### Note:

- The sound output from the AUDIO OUT terminals can not be turned off.

#### 5. Press $\nabla/\Delta$ button to select VOLUME, then press $\nabla/\Delta$ button to adjust the volume of the headphones.



#### 6. Press OK button.

This completes the setting.

### To select a channel without using the remote control

You can also use the buttons on the front panel of the TV.

#### 1. Press the Up/down button to turn your TV on.



The Power lamp changes from red to green.

#### Note:

- If your TV does not turn on, press the Main power button, and then press the Up/down button again.

#### 2. Press the Up/down button to select the PR channel.

#### 3. Adjust the volume.



1. Press the Volume button.

The volume level indicator appears.

2. Press the Up/down button while the volume level indicator is displayed.

To turn off your TV, press the Main power button.



The Power lamp goes off.


#### Note:

- PR channel selection is not available while the volume level indicator is displayed.

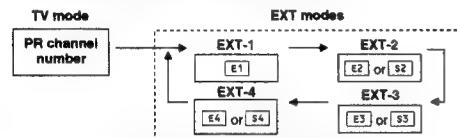
## PREPARATION AND BASIC OPERATION

### Viewing images from external devices

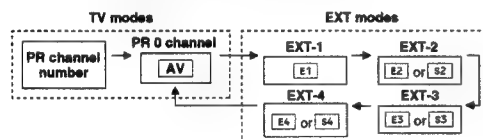
#### 1. Repeatedly press the 0 button to select the EXT terminal.

 The current selection appears, and disappears after several seconds.

When a station is not registered to the PR 0 (AV) channel, pressing the 0 button changes the selection as follows:



When a station is registered to the PR 0 (AV) channel, pressing the 0 button changes the selection as follows:



#### TV mode:

Shows images input from an external device (such as a VCR) or TV aerial connected to the aerial socket of your TV.

#### EXT modes:

Shows images input from an external device (such as a VCR) connected to the selected EXT terminal.

- To use S-Video mode to view input from an S-VHS VCR, see "To select S-VIDEO input for a terminal" on page 22. When selecting EXT-2, EXT-3 or EXT-4 input terminals as S-VIDEO input, E2, E3 or E4 changes to S2, S3 or S4 in the display.

#### Notes:

- If the picture is not clear or no colour appears, change the colour system manually (see page 11).
- When selecting an EXT terminal with no input signal, the EXT number and ID become fixed on screen.

## SOUND AND PICTURE

### MUTE

You can mute the volume to 0 instantly. This is convenient when answering the phone or when receiving visitors.

#### 1. Press (Mute).

The sound is muted.



To restore the sound:  
Press the Mute button again.

### POWER BASS

You can enjoy richness and fullness of the bass sound.

#### 1. Press P. BASS.

The POWER BASS turns on.

P. BASS

POWER BASS ON

To cancel the function:  
Press the P. BASS button again.

POWER BASS OFF

### MULTI SOUND

You can select the multi sound mode for stereo broadcast programmes and bilingual programmes.

#### Note:

- The MULTI SOUND function has no effect on programmes other than A2 or NICAM broadcast programmes.

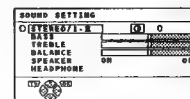
#### 1. Press OK.

The MENU appears.



#### 2. Press to select SOUND SETTING, then press OK.

The SOUND SETTING menu appears.



#### 3. Press to select STEREO / I • II.

#### Notes:

- The multi sound mode display is different from the broadcast programme.
- The multi sound function does not work in EXT modes. The STEREO / I • II does not appear in SOUND SETTING menu.

#### 4. Press to select a multi sound mode.

- I : Stereo sound
- II : Bilingual I (Sub I)
- III : Bilingual II (Sub II)
- 0 : Normal sound

#### 5. Press OK.

This completes the setting.

#### Note:

- When you display the current PR channel number, the current multi sound mode appears for approximately 3 seconds.

### TINT

You can choose from among three TINT modes.

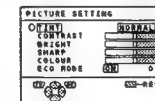
#### 1. Press OK.

The MENU appears.

#### 2. Press to select PICTURE SETTING, then press OK.

The PICTURE SETTING menu appears.

#### 3. Press to select TINT.



#### 4. Press to select a tint mode.

#### COOL:

A cool white colour base with a boost in the colour and contrast levels. Creating a more vivid picture.

#### WARM:

Use this mode when viewing film programmes.

#### NORMAL:

A normal white colour base with no boost in the colour or contrast levels.

#### 5. Press OK.

This completes the setting.

### COLOUR SYSTEM

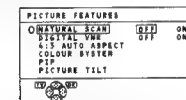
The colour system is automatically selected, but if the picture is not clear or no colour appears, select the colour system manually.

#### 1. Press OK.

The MENU appears.

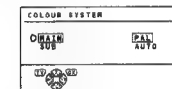
#### 2. Press to select PICTURE FEATURES, then press OK.

The PICTURE FEATURES menu appears.



#### 3. Press button to select COLOUR SYSTEM, then press OK.

The COLOUR SYSTEM menu appears.



#### 4. Press button to select MAIN or SUB.

- If your TV is not AV-32WP2EN or AV-32WP2EP, the SUB will not appear. So you can skip this operation.

#### MAIN:

You can select the colour system of MAIN picture.

#### SUB:

You can select the colour system of SUB picture.

#### 5. Press to select the appropriate colour system.

#### PAL:

PAL system.

#### SECAM:

SECAM system.

#### NTSC3.58:

NTSC 3.58 MHz system.

#### NTSC4.43:

NTSC 4.43 MHz system.

#### AUTO:

Automatic colour system selection.

## SOUND AND PICTURE

### Notes:

- Auto may not function properly depending on signal quality. If the picture is abnormal in AUTO mode, select another colour system manually.
- When in TV mode (PR 1 to PR 99), you cannot select AUTO, NTSC 3.58 or NTSC 4.43.
- When in TV mode (PR 0), you cannot select NTSC 3.58 or NTSC 4.43.

### 6. Press OK.

This completes the setting.

## PICTURE/SOUND ADJUSTMENT

You can adjust the picture and sound as you like.

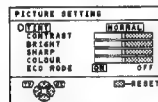
### To adjust the picture

#### 1. Press OK.

The MENU appears.

#### 2. Press $\nabla/\Delta$ to select PICTURE SETTING, then press OK.

The PICTURE SETTING menu appears.



#### 3. Press $\nabla/\Delta$ to select an item, and press $\leftarrow/\rightarrow$ to adjust it.

- To return to the default settings, press blue button.

$\leftarrow$	Item	$\rightarrow$
Lower	CONT. (picture contrast)	Higher
Darker	BRIGHT (picture brightness)	Brighter
Softer	SHARP (picture sharpness)	Sharper
Lighter	COLOUR (picture colour)	Deeper
Reddish	HUE (picture hue)	Greenish

### Notes:

- You can adjust the HUE (picture hue) only when the colour system is NTSC 3.58 or NTSC 4.43.

#### 4. Press OK.

This completes the setting.

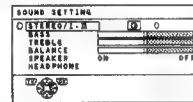
### To adjust the sound

#### 1. Press OK.

The MENU appears.

#### 2. Press $\nabla/\Delta$ to select SOUND SETTING, then press OK.

The SOUND SETTING menu appears.



### Notes:

- When DOLBY® PRO LOGIC or PRO LOGIC 3D-PHONIC is selected in DIGITAL SURROUND menu, BALANCE and SPEAKER do not appear.

\* Manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby", the double-D symbol and "Pro Logic" are trademarks of Dolby Laboratories Licensing Corporation.

#### 3. Press $\nabla/\Delta$ to select an item, and press $\leftarrow/\rightarrow$ to adjust it.

$\leftarrow$	Item	$\rightarrow$
Weaker	BASS (low frequency sound)	Stronger
Weaker	TREBLE (high frequency sound)	Stronger
Left	BALANCE (audio balance)	Right

### SPEAKER ON/OFF:

Use this function if you connect an audio amplifier and front speakers to your TV. If you set this function to OFF, sound is no longer output from the TV's speakers. For details, see "To use 2 external speakers" on page 27.

#### 4. Press OK.

This completes the setting.

## ECO MODE

When you set ECO mode to ON, the screen contrast is automatically adjusted to a setting suitable for the brightness of your room. This reduces eye strain and the power consumption of the TV.

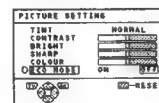
#### 1. Press OK.

The MENU appears.

#### 2. Press $\nabla/\Delta$ to select PICTURE SETTING, then press OK.

The PICTURE SETTING menu appears.

#### 3. Press $\nabla/\Delta$ to select ECO.



#### 4. Press $\leftarrow/\rightarrow$ to select ON, OFF.

#### 5. Press OK.

This completes the setting.

- If you turned on ECO mode, the ECO lamp lights.

## NATURAL SCAN

When you set NATURAL SCAN to ON, you can remove the horizontal line vibration on the screen so improving picture stability further.

#### 1. Press OK.

The MENU appears.

#### 2. Press $\nabla/\Delta$ to select PICTURE FEATURES, then press OK.

The PICTURE FEATURES menu appears.

#### 3. Press $\nabla/\Delta$ to select NATURAL SCAN.



#### 4. Press $\leftarrow/\rightarrow$ to select ON, OFF.

#### 5. Press OK.

This completes the setting.

## DIGITAL VNR

When you set DIGITAL VNR to ON, you can reduce the noise on the screen so improving picture quality further.

#### 1. Press OK.

The MENU appears.

#### 2. Press $\nabla/\Delta$ to select PICTURE FEATURES, then press OK.

The PICTURE FEATURES menu appears.

#### 3. Press $\nabla/\Delta$ to select DIGITAL VNR.



#### 4. Press $\leftarrow/\rightarrow$ to select ON, OFF.

#### 5. Press OK.

This completes the setting.

## ZOOM

Select a ZOOM mode to change the picture format. You can enlarge the picture to fill the wide TV screen (16:9 aspect ratio). In addition, you can stretch a normal picture (4:3 aspect ratio) to fill the wide TV screen.

### Notes:

- The picture format information of the present broadcasting programme may be received as WSS (Wide Screen Signalling). When AUTO mode is selected for ZOOM mode and the WSS signal is received, this TV automatically selects the optimum ZOOM mode corresponding to the WSS signal. However, in the case of weak WSS signal reception, this function may not work correctly. In this case, select an optimum ZOOM mode manually.
- If the EXT-1, EXT-2 or EXT-3 terminal's input is from a picture signal with a 16:9 aspect ratio picture format, the ZOOM mode may automatically changes to FULL mode. This is because the TV detects an identification signal which is not an WSS signal.

## Manual ZOOM selection

you can select a desired ZOOM mode manually.

#### 1. Press ZOOM repeatedly to select a ZOOM mode.

The picture expands.

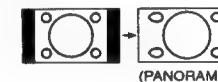
### REGULAR mode:

Use to view a normal picture (4:3 aspect ratio) unchanged.



### PANORAMIC mode:

Stretches the left and right sides of a normal picture to fill the screen, in a way that does not appear unnatural.

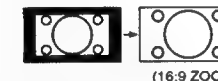


### Notes:

- In PANORAMIC mode, the top and bottom of the picture are slightly cut off.

### 16:9 ZOOM mode:

Use to expand a wide picture (16:9 aspect ratio).



### 14:9 ZOOM mode:

Use to expand a picture with a 14:9 aspect ratio.



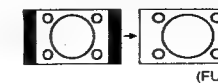
### 16:9 ZOOM SUBTITLE mode:

Use to expand a picture with a 16:9 aspect ratio having subtitles at the bottom of the screen.



### FULL mode:

Uniformly stretches the left and right sides of a normal picture (4:3 aspect ratio) to fill the wide TV screen.



### Notes:

- For pictures with a 16:9 aspect ratio that have been squeezed into a normal picture (4:3 aspect ratio), select FULL mode to restore their original dimensions.

### To move the picture vertically:

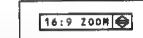
If you cannot see subtitles at the bottom of the screen, or if the top or bottom is cut off, move the picture vertically.

### Notes:

- You cannot move the picture vertically in AUTO, REGULAR and FULL mode.

#### 1. Press ZOOM.

The current ZOOM mode is displayed.



#### 2. Before the display disappears, press $\nabla/\Delta$ to move the picture up or down.

### Notes:

- If you change the ZOOM mode, the picture returns to its default position.

## Automatic ZOOM selection (AUTO mode)

You can set your TV to automatically select the optimum ZOOM mode to suit the picture format.

#### 1. Press ZOOM repeatedly to select AUTO.

Your TV automatically selects the optimum ZOOM mode to suit the current programme's picture format.

### Notes:

- This function may not work correctly depending on the programme. In this case, select the optimum ZOOM mode manually.

(Continued to the next page)

AV-32WZ2EN  
AV-32WZ2EP  
AV-28WZ2EN  
AV-28WZ2EP

## SOUND AND PICTURE

To preset a ZOOM mode for the normal picture:

You can preset one of three ZOOM modes, REGULAR, PANORAMIC or 14:9 ZOOM, as the ZOOM mode for the normal picture (4:3 aspect ratio).

### 1. Press OK.

The MENU appears.

### 2. Press $\nabla/\Delta$ to select PICTURE FEATURES, then press OK.

The PICTURE FEATURES menu appears.

### 3. Press $\nabla/\Delta$ to select 4:3 AUTO ASPECT, then press OK.

The 4:3 AUTO ASPECT menu appears.



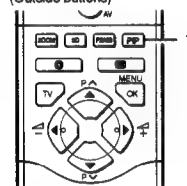
### 4. Press $\nabla/\Delta$ to select a ZOOM mode.

### 5. Press OK.

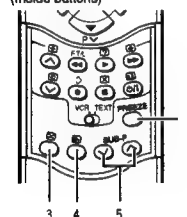
This completes the setting.

## PIP (AV-32WP2EN, AV-32WP2EP only)

(Outside buttons)



(Inside buttons)



- 1 PIP button
- 2 FREEZE button
- 3 Multi button
- 4 Swap button
- 5 SUB-P  $\nabla/\Delta$  button

### Twin pictures mode:

MAIN-picture is displayed on the left hand and SUB-picture is displayed on the right hand.



### Picture in picture mode:

SUB-picture is displayed in Main picture.



### 2. Press SUB-P $\nabla/\Delta$ to select the SUB-picture's PR channel or EXT mode.

To clear the SUB-picture: Press the PIP button again.

### Notes:

- The PR channel or EXT mode image which is the same as the MAIN-picture can not be selected.
- The movement of the Sub-picture image is not as smooth as that of the MAIN-picture image.
- If the MAIN-picture image signal condition is bad, the SUB-picture image may be disordered. If the MAIN-picture image signal condition is improved, the SUB-picture image also improves.
- If the picture standard of the MAIN-picture and SUB-picture are different, the top and bottom of one of them may be missing.
- If an external device is operated, the SUB-picture may disappear. If this happens, press the PIP button once more and redisplay the SUB-picture.
- If the SWAP button is pressed when the image from the external decoder is displayed in the MAIN-picture, the same image is displayed in both the MAIN picture and SUB-picture. If the SWAP button is pressed once more, the previous state is returned to.

picture, the same image is displayed in both the MAIN picture and SUB-picture. If the SWAP button is pressed once more, the previous state is returned to.

- In the Twin pictures mode, a horizontal line is displayed at the top of the screen. This is normal and is not a malfunction.

### To change the position of SUB-picture in Picture in picture mode:

You can select the one of four positions of the SUB-picture in Picture in picture mode.

### 1. Press OK.

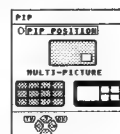
The MENU appears.

### 2. Press $\nabla/\Delta$ to select PICTURE FEATURES, then press OK.

The PICTURE FEATURES menu appears.

### 3. Press $\nabla/\Delta$ to select PIP, then press OK.

The PIP menu appears.



### 4. Press $\nabla/\Delta$ to select PIP POSITION, then press $\leftarrow/\rightarrow$ to select the position.

### 5. Press OK.

The menu disappears.

### To listen to the sound of the SUB-picture

While listening to the sound of the main picture on the speakers, you can listen to the sound of SUB-picture on your headphones.

### 1. Press OK.

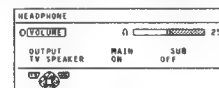
The MENU appears.

### 2. Press $\nabla/\Delta$ to select SOUND SETTING, then press OK.

The SOUND SETTING menu appears.

### 3. Press $\nabla/\Delta$ to select HEADPHONE, then press OK.

The HEADPHONE menu appears.



### 4. Press $\nabla/\Delta$ to select TV SPEAKER, then press $\leftarrow/\rightarrow$ to select ON or OFF.

### ON:

Main picture sound from speakers while listening to the sound on your headphones.

### OFF:

No sound from speakers

### 5. Press $\nabla/\Delta$ to select OUTPUT, then press $\leftarrow/\rightarrow$ to select SUB.

### MAIN:

You can listen to the sound of MAIN picture on your headphones.

### 6. Press $\nabla/\Delta$ to select VOLUME, then press $\leftarrow/\rightarrow$ to adjust the volume of the headphones.

### 7. Press OK.

The menu disappears.

### Notes:

- When the SUB-picture is in TV mode, the SUB-picture sound is monaural only.
- The Multi sound function does not work for the SUB-picture sound.
- Neither any of the surround sound functions or the POWER BASS function work for the SUB picture sound.

## MULTI-PICTURE

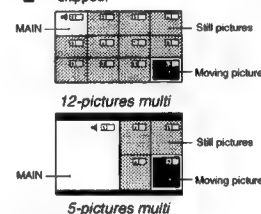
The PR channel and EXT mode images can be displayed as still pictures on the outside of the MAIN-picture, and the image which you want to see can be selected from these still pictures and seen as the MAIN-picture.

### 1. Press the Multi button.

The PR channel and EXT mode images are displayed in the channel number order. Only the image which is displayed last is left as a moving picture. The other images change to still pictures.

### Note:

- The MAIN-picture PR channel number or EXT mode number is skipped.



In order to display the next PR channel or EXT mode image: Press the Multi button again.

To clear the Multi-pictures: Press the TV button.

### 2. Press the $\nabla/\Delta$ button or SUB P $\nabla/\Delta$ button and select the PR channel or EXT terminal image that you want to see.

The selected image changes from a still picture to a moving picture.

### 3. Press OK.

The Multi-pictures disappear and the MAIN-picture image changes to the selected PR channel or EXT terminal image.

### To select the multi-picture style

You can select one of two multi-picture's styles.

### 1. Press OK.

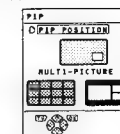
The MENU appears.

### 2. Press $\nabla/\Delta$ to select PICTURE FEATURES, then press OK.

The PICTURE FEATURES menu appears.

### 3. Press $\nabla/\Delta$ to select PIP, then press OK.

The PIP menu appears.



### 4. Press $\nabla/\Delta$ to select MULTI-PICTURE, then press $\leftarrow/\rightarrow$ to select a multi-picture's style.

### 5. Press OK.

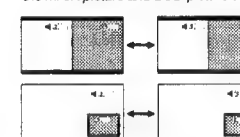
The menu disappears.

## SWAP

You can swap MAIN and SUB-pictures

### 1. Press the Swap button.

Each time you press the Swap button, the MAIN picture and SUB-picture swap.



### Notes:

- If the SWAP button is pressed when the image from the external decoder is displayed in the MAIN picture, the same image is displayed in both the MAIN picture and SUB picture. If the SWAP button is pressed once more, the previous state is returned to.
- When another PR channel is being watched in the SUB picture, if the SWAP function is used the TV broadcast PR channel, which is output from the EXT-1, EXT-2 or EXT-3 terminal, is switched.

## FREEZE

You can view the MAIN-picture's frozen image as the SUB-picture.

### 1. Press FREEZE.

The main picture's frozen image (still picture) is displayed as the SUB-picture.



To cancel the FREEZE function: Press the FREEZE button again.

## BASIC OPERATION

You can select two types of PIP picture mode.

### 1. Press PIP repeatedly to select a PIP mode.

Two pictures are displayed in the same time.

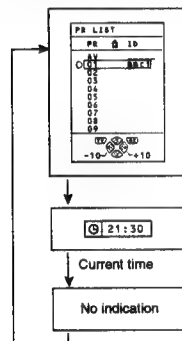
# OTHER FEATURES

## INFORMATION

You can display the PR LIST or the current time.

1. Press **INFO** (Information) repeatedly.

The display changes cyclically in the following order.



### About PR LIST:

- Ten positions including the currently selected PR channel will be displayed as a list.
- Press **▲/▼** / **◀/▶** to select the desired PR channel. For details see page 7.

### About the current time display:

This TV uses teletext data to determine the current time.

- If the TV has not received a station that has teletext data since it was turned on, the time display is blank.
- To view the current time, select a station that is broadcasting teletext data. As long as you do not turn off the TV, then even if you select other stations, the time will still be displayed.
- When watching videos, the wrong current time is sometimes displayed.

## SLEEP TIMER

You can set the TV to automatically turn off after a specified period of time.

### Note:

- The SLEEP TIMER does not turn off the Main power.

1. Press **OK**.  
The MENU appears.
2. Press **▲/▼** to select **FEATURES**, then press **OK**.  
The FEATURES menu appears.



3. Press **▲/▼** to select **SLEEP TIMER**, then press **OK**.  
The SLEEP TIMER menu appears.



4. Press **◀/▶** to select a period of time.

You can set the period of time a maximum of 120 minutes in 10 minute increments.

### OFF:

Turns off the SLEEP TIMER.

5. Press **OK**.

- The Sleep timer lamp lights if you set the SLEEP TIMER.

### To display the remaining Sleep timer time:

Perform steps 1 to 3 to display the SLEEP TIMER menu, and press **OK** button when you finish checking the time.

### To turn off the Sleep timer:

Perform steps 1 to 3 to display the SLEEP TIMER menu, press **◀** button to select "OFF", and then press **OK** button.

- The Sleep timer lamp goes out.

### Note:

- One minute before the SLEEP TIMER turns off the TV, "GOOD NIGHT!" appears.

## BLUE BACK

When viewing a PR channel with no or poor reception, or if there is no input from an external device, you can mute the sound and change the picture into a blue picture.

1. Press **OK**.  
The MENU appears.
2. Press **▲/▼** to select **FEATURES**, then press **OK**.  
The FEATURES menu appears.



3. Press **▲/▼** to select **BLUE BACK**.



4. Press **◀/▶** to select **ON** or **OFF**.

5. Press **OK**.

This completes the setting.

## CHILD LOCK

You can lock some PR channels to prevent your children from watching them.

### To set the CHILD LOCK

1. Press **OK**.  
The MENU appears.
2. Press **▲/▼** to select **FEATURES**, then press **OK**.  
The FEATURES menu appears.



3. Press **▲/▼** to select **CHILD LOCK**, then press **OK** button.  
The SET ID NO. menu appears.

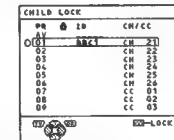


4. Enter the ID number.

1. Press **▲/▼** to select a number.
2. Press **◀/▶** to move the cursor.

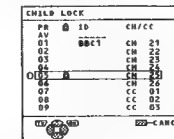
5. Press **OK**.

The CHILD LOCK menu appears.



6. Press **▲/▼** to select a PR channel, then press **blue** button.

The selected PR channel is locked.



- To cancel the CHILD LOCK: Press blue button again.
- Repeat step 6 to lock all PR channels which you want to lock.

7. Press **OK**.

This completes the setting.

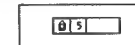
### Notes:

- You cannot select a locked PR channel using the PR channel **V/A** buttons.
- Even if you can select a locked channel and display it, you can not view the programme of the locked channel.

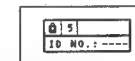
### To view a locked PR channel

1. Select a locked PR channel.

- Use the number buttons to select the PR channel.
- The locked channel is displayed.



2. Press **INFO** (Information).  
The ID NO. input menu appears.



3. Press the number buttons to enter the ID number.

You are now viewing the locked PR channel.

### If you forget the ID number:

Perform steps 1 to 3 of "To set the CHILD LOCK". After you confirm the ID number, press the TV button to exit the menu.

## DEMONSTRATION

The demonstration runs automatically and introduces the menus of this TV's main features.

1. Press **OK**.

The MENU appears.

2. Press **▲/▼** to select **DEMO**, then press **OK**.

The demonstration begins.

- To stop the demonstration, press any button on the remote control.

## INDEX

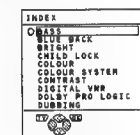
You can go to the desired function's menu directly from this INDEX menu.

1. Press **OK**.

The MENU appears.

2. Press **▲/▼** to select **INDEX**, then press **OK**.

The INDEX menu appears.



3. Press **▲/▼** to select the function you want to use, then press **OK**.

Your selected function's menu or the menu which includes your selected function appears.

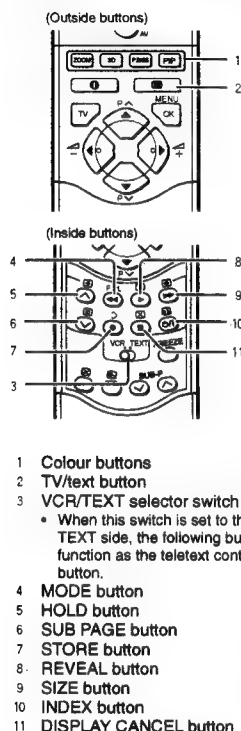
- To return to the MENU, press the Information button.



# TELETEXT

## Note:

- If you have trouble receiving teletext broadcasts, consult your local dealer or the teletext station.



## BASIC TELETEXT OPERATION

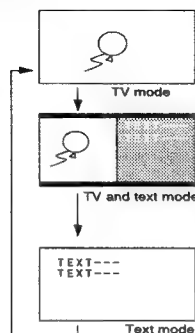
You can view three types of teletext broadcasts on the TV: Fastext, TOP and WST. The TV automatically recognizes the type of teletext broadcast.

### Condition:

- The VCR/TEXT selector switch must already be set to the TEXT side.

1. Select a channel with a teletext broadcast.

2. Press (TV/text).



### Note:

- If your TV is not AV-32WP2EN or AV-32WP2EP, the TV and Text mode can not be selected.
- The movement of the TV image in the TV and text mode is not as smooth as that in the TV mode.

3. Select a page number.

### Browse:

Press the PR channel  $\nabla/\Delta$  button on the remote control.

### Direct selection:

Press the number buttons to enter a three-digit page number.

### Colour button selection:

Press a colour button to select the corresponding page number on the bottom line of the screen.

### Notes:

- Category names of teletext pages may appear instead of page numbers.
- In principle, ZOOM mode is fixed to FULL mode when you view Teletext programmes.
- Some Teletext programmes display a mixture of regular TV programmes and Teletext information. When viewing these programmes, ZOOM mode returns to the mode you selected before you started viewing Teletext programmes. With the ZOOM mode, the Teletext information may not be displayed in the correct position. If this happens, press the TV/Text button to cancel the Text mode, then press the ZOOM button to change the ZOOM mode to the PANORAMIC mode or FULL mode.

- To return to TV mode, press the TV/text button repeatedly.

## Notes:

- You can also return to TV mode by pressing the TV button.
- None of the MENU operations are possible in the Text mode. Perform the MENU operation after pressing the TV/Text button to cancel the Text mode.
- In the TV and text mode, a horizontal line is displayed at the top of the screen. This is normal and is not a malfunction.

## DISPLAY CANCEL

You can search for a teletext page while watching TV.

1. Select a teletext page.

The TV searches for a teletext page.

2. Press DISPLAY CANCEL.

The TV programme appears.

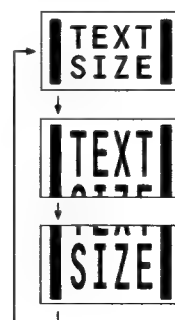
When the TV finds the teletext page, its page number appears in the upper left of the screen.

3. Press (TV/text) when the page number is on the screen.

## SIZE

You can double the height of the teletext display.

1. Press SIZE repeatedly.

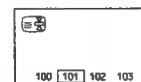


## HOLD

You can hold a teletext page on the screen for a desired length of time, even while several other teletext pages are being received.

1. Press HOLD.

is displayed in the upper left of the screen, and the teletext page is held on the screen.



### To release hold mode:

Press HOLD button again.

## INDEX

Just press INDEX button to return to the index page.

1. Press INDEX.

### Fastext/TOP/WST:

Returns to page 100 or a previously specified page.

### LIST mode:

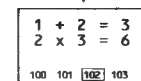
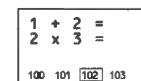
Returns to the page number displayed in the lower left area of the screen.

## REVEAL

Some teletext pages include hidden text (such as answers to a quiz).

1. Press REVEAL.

Each time you press REVEAL button, text is hidden or revealed.



## LIST MODE

If you store the numbers of teletext pages you view often, you can quickly call up a desired teletext page whenever you like.

### Note:

- You can store up to 64 pages in memory. You can store four pages in each channel from 1 to 15 (60 pages), and four pages that are the same for all channels above channel 15 (4 pages).

### To store the page numbers

1. Press MODE to engage LIST mode.

Stored page numbers are displayed at the bottom of the screen.

2. Press a colour button, then enter the number of the teletext page.

To assign other pages to remaining colour buttons, repeat this operation.

3. Press and hold STORE.

The four page numbers blink white to indicate that they are stored in memory.

### To call up a stored page

1. Press MODE to engage LIST mode.

Stored page numbers are displayed at the bottom of the screen.

### To release LIST mode:

Press MODE button again.

2. Press a colour button to which a page has been assigned.

## SUB PAGE

Some teletext pages include sub-pages that are automatically displayed. You can hold any sub-page, or view it at any time.

1. Call up a teletext page with sub-pages.

2. Press SUB PAGE.

Sub-page numbers are displayed at the left of the screen.

### Background colour of the sub-page number is yellow:

This is the number of the sub-page which is currently being displayed.

### Background colour of the sub-page number is white:

These are the numbers of the sub-pages which can be displayed.

### Background colour of the sub-page number is blue or red:

These are the numbers of sub-pages which have not been sent and can therefore not be displayed.

3. Press  $\nabla/\Delta$  button to select a sub-page number.

# SURROUND SOUND

## DOLBY PRO LOGIC 3D-PHONIC

You can enjoy the ambience of Dolby Surround encoded programmes.

### Condition:

- Before performing the procedure, disconnect headphones from the TV.

### Note:

- This function works only with Dolby Surround encoded programmes.
- When operating this function, the TV's 3D lamp lights up.
- This function does not work correctly when listening to the sound with headphones.

### 1. Press OK.

The MENU appears.

### 2. Press $\nabla/\Delta$ to select DIGITAL SURROUND, then press OK.

The DIGITAL SURROUND menu appears, showing the currently active function.



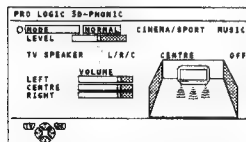
### 3. Press $\nabla/\Delta$ to select PRO LOGIC 3D-PHONIC.

#### To cancel the function:

Select SURROUND OFF, then press the OK button.

### 4. Press $\blacktriangleright$ .

The PRO LOGIC 3D-PHONIC menu appears.



### 5. Press $\nabla/\Delta$ to select MODE.

### 6. Press $\blacktriangleleft/\blacktriangleright$ to select the desired mode.

#### NORMAL:

For normal programmes

#### CINEMA/SPORT:

For cinema and sports programmes

#### MUSIC:

For music programmes

#### To adjust the effect level:

Press the  $\nabla/\Delta$  button to select LEVEL, then press the  $\blacktriangleleft/\blacktriangleright$  button to adjust the effect level.

#### To adjust the volume level of each speaker:

Press  $\nabla/\Delta$  button to select LEFT, CENTRE or RIGHT, then press the  $\blacktriangleleft/\blacktriangleright$  button to adjust the volume level.

### Note:

- Since models other than AV-32WP2EN and AV-32WP2EP do not have a centre speaker built-in to the TV, CENTRE can not be selected. However, when 2 external speakers are being used, the TV speakers can be used as the centre speaker, so CENTRE can be selected.

#### TV SPEAKER:

This setting is only changed when 2 external speakers are being used. For details, refer to "To use 2 external speakers" on page 27.

### Note:

- When not using external speakers, leave the TV SPEAKER setting as L/R/C (L/R in the case of models other than AV-32WP2EN and AV-32WP2EP). Otherwise sound may not come out of the TV speakers or the sound may become monaural.

### 7. Press OK.

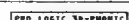
#### Note:

- If, while using this function, you connect headphones to your TV, the 3D HEADPHONE function (see next page) activates automatically. However, if SPEAKER is set to ON in the HEADPHONE menu, the 3D HEADPHONE function is not activated.

## To turn on/off DOLBY PRO LOGIC 3D-PHONIC with one touch

### 1. Press 3D.

DOLBY PRO LOGIC 3D-PHONIC turns on.



### Note:

- If 3D HEADPHONE appears, disconnect the headphones from the TV.

#### To cancel the function:

Press the 3D button again.



#### To return the previous surround function:

Press the 3D button twice.

## DIGITAL SURROUND

You can enjoy any one of the four Digital Surround functions.

### Condition:

- Before performing the procedure, disconnect headphones from the TV.

### 1. Press OK.

The MENU appears.

### 2. Press $\nabla/\Delta$ to select DIGITAL SURROUND, then press OK.

The DIGITAL SURROUND menu appears, showing the currently active function.



### 3. Press $\nabla/\Delta$ to select the desired function.

#### DANCE CLUB:

For the atmosphere of a dance club

#### CONCERT HALL:

For the atmosphere of a concert hall

#### STADIUM:

For the atmosphere of a stadium

#### HYPER SOUND:

To give monaural sound the spacious feeling of stereo sound

#### To cancel the function:

Select SURROUND OFF.

### 4. Press OK.

#### Notes:

- Only HYPER SOUND works well with monaural sound programmes.
- HYPER SOUND does not work well with stereo sound programmes.
- If, while using this function, you connect headphones to your TV, Headphone Surround (see next page) activates automatically. However, if SPEAKER is set to ON in the HEADPHONE menu, the HEADPHONE SURROUND function is not activated.

## HEADPHONE SURROUND

You can enjoy surround sound on your headphones. You can enjoy any one of the four Headphone surround functions.

### Condition:

- Before performing this procedure, connect headphones to the TV.

### 1. Press OK.

The MENU appears.

### 2. Press $\nabla/\Delta$ to select HEADPHONE SURROUND, then press OK.

The HEADPHONE SURROUND menu appears, showing the currently active function.



If HEADPHONE SURROUND does not appear in the MENU, set SPEAKER in the HEADPHONE menu to OFF. For details, refer to "To listen to the sound using headphones" on page 8.

### 3. Press $\nabla/\Delta$ to select the desired function.

#### 3D HEADPHONE:

For a broad, atmospheric sound

#### DANCE CLUB:

For the atmosphere of a dance club

#### CONCERT HALL:

For the atmosphere of a concert hall

#### STADIUM:

For the atmosphere of a stadium

#### HYPER SOUND:

To give monaural sound the spacious feeling of stereo sound

#### To cancel the function:

Select SURROUND OFF.

### 4. Press OK.

#### Note:

- HYPER SOUND does not work well with stereo sound programmes.

## To turn the 3D HEADPHONE on/off with one touch

### 1. Press 3D.

3D HEADPHONE turns on.

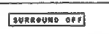


### Note:

- If PRO LOGIC 3D-PHONIC is still displayed, set SPEAKER in the HEADPHONE menu to OFF.

#### To cancel the function:

Press the 3D button again.



#### To return the previous surround function:

Press the 3D button twice.

## DOLBY PRO LOGIC SURROUND

You can also use Dolby Pro Logic Surround sound with 4 or 5 speakers. If you wish to use this system, additional amplifiers and speakers are required. For details, see "To use 4 or 5 speakers" on page 28.

### Condition:

- Before performing the procedure, disconnect headphones from the TV.

### Note:

- This function works only with Dolby Surround encoded programmes.

### 1. Press OK.

The MENU appears.

### 2. Press $\nabla/\Delta$ to select DIGITAL SURROUND, then press OK.

The DIGITAL SURROUND menu appears, showing the currently active function.



### 3. Press $\nabla/\Delta$ to select DOLBY PRO LOGIC.

#### To cancel the function:

Select SURROUND OFF.

AV-32WZ2EN  
AV-32WZ2EP  
AV-28WZ2EN  
AV-28WZ2EP

## OTHER PREPARATION

### EXT SETTING

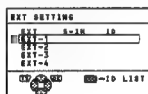
You can select S-VIDEO or normal input for the EXT-2, EXT-3 and EXT-4 terminals, and you can give an EXT ID to each EXT input terminal.

#### To select S-VIDEO input for a terminal

1. Press OK.  
The MENU appears.
2. Press  $\nabla/\Delta$  to select EXT SOURCE, then press OK.  
The EXT SOURCE menu appears.

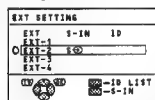


3. Press  $\nabla/\Delta$  to select EXT SETTING, then press OK.  
The EXT SETTING menu appears.



4. Press  $\nabla/\Delta$  to select an EXT input terminal.

5. Press yellow button.  
The S-VIDEO input indication appears.
- To select normal input, press yellow button again.

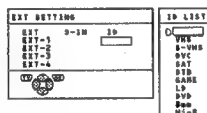


- If you want to set an EXT ID here, perform the operation procedures from the step 4 of the section "To give an EXT ID to an EXT input terminal" in the next column.

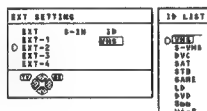
6. Press OK.  
The menu disappears.

#### To give an EXT ID to an EXT input terminal

1. Press OK.  
The MENU appears.
2. Press  $\nabla/\Delta$  to select EXT SOURCE, then press OK.  
The EXT SOURCE menu appears.
3. Press  $\nabla/\Delta$  to select EXT SETTING, then press OK.  
The EXT SETTING menu appears.
4. Press  $\nabla/\Delta$  to select an EXT input terminal.
5. Press blue button.  
The ID LIST appears.



6. Press  $\nabla/\Delta$  to select an EXT ID.



#### Note:

- To erase the EXT ID, select a blank space.

7. Press OK.

- This completes the procedure. Press the TV button to exit the menu.

### DUBBING

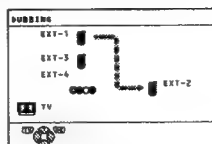
Select output to a VCR or other device connected to the EXT-2 terminal. Note that you cannot output from the EXT-2 terminal when the TV is tuned off.

#### Note:

- RGB signals from TV games and TELETEXT screens cannot be output from EXT-2 terminal.

1. Press OK.  
The MENU appears.

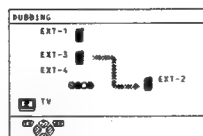
2. Press  $\nabla/\Delta$  to select EXT SOURCE, then press OK.  
The EXT SOURCE menu appears.
3. Press  $\nabla/\Delta$  to select DUBBING, then press OK.  
The DUBBING menu appears.



4. Press  $\nabla/\Delta$  to select the input which you want to output from EXT-2.

#### TV:

The sound and picture of the currently selected PR channel is output from EXT-2, so you can record the output on a VCR connected to the EXT-2 terminal while watching a video input from the EXT-1, EXT-2 or EXT-4 terminal. Even when a SUB picture is displayed, the output TV broadcast PR channel does not change. However, when another PR channel is being watched in the SUB picture, if the SWAP function is used, the output TV broadcast PR channel is switched.



5. Press OK.  
The menu disappears.

### LANGUAGE

You can select one of ten languages for the on-screen display.

1. Press OK.  
The MENU appears.
2. Press  $\nabla/\Delta$  to select INSTALL, then press OK.  
The INSTALL menu appears.



3. Press  $\nabla/\Delta$  to select LANGUAGE, then press OK.  
The LANGUAGE menu appears.



4. Press  $\nabla/\Delta$  to select a language.

5. Press OK.  
This completes the setting.

### AUTO PROGRAM

You can automatically allocate up to 99 stations to PR channels PR 1 to PR99 on this TV.

When the TV receives a signal describing the station's name, it allocates those stations, station IDs, and registers them as they were preset at the JVC factory.

1. Press OK.  
The MENU appears.
2. Press  $\nabla/\Delta$  to select INSTALL, then press OK.  
The INSTALL menu appears.
3. Press  $\nabla/\Delta$  to select AUTO PROGRAM, then press OK.  
The COUNTRY menu appears.



4. Press  $\nabla/\Delta$  /  $\triangleleft/\triangleright$  to select your country.

#### Note:

- If you make a mistake when selecting your country, or do not want to use the Automatic allocation function, press OK button to return to the INSTALL menu.

5. Press blue button.

The PR channel is automatically set and the EDIT menu is displayed.

- If you want to edit PR channels or allocate a station to PR0 (AV) channel, see page 24 "EDIT/MANUAL" for procedural description.

#### Note:

- If a station you want to view is not allocated to a PR channel, perform Manual allocation (see page 26).

- The procedure is complete. Press the TV button to exit the menu.

## OTHER PREPARATION

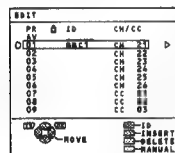
### EDIT/MANUAL

You can change PR channel settings by doing any of the following:

- You can delete an unwanted station from a PR channel.
- You can change the PR channel number of a station.
- You can add station IDs to PR channels.
- You can add a new station to a PR channel, or
- You can manually allocate the desired station to a PR channel.

### To edit PR channels

- Press **OK**.  
The **MENU** appears.
- Press **▼/▲** to select **INSTALL**, then press **OK**.  
The **INSTALL** menu appears.
- Press **▼/▲** to select **EDIT/MANUAL**, then press **OK**.  
The **EDIT** menu appears.

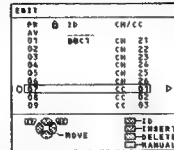


- Use any of the procedures described in the following pages to change the PR channel settings.

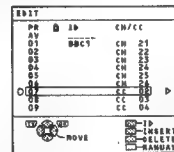
- This completes the procedure. Press the TV button to exit the menu.

### To delete a station from a PR channel

- Press **▼/▲** to select the station you want to delete.



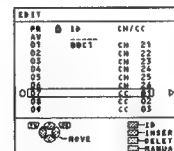
- Press yellow button.



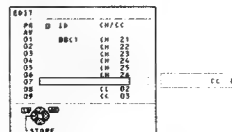
- Note:**
- Stations allocated to PR channels following the deleted PR channel number are shifted back by one to the preceding PR channel number.

### To change the PR channel number of a station

- Press **▼/▲** to select the station.

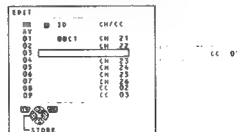


- Press **▶**.

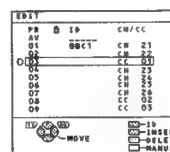


- Press **▼/▲** to move the selected station to the desired PR channel number.

- To cancel the operation, press the **(Information)** button.

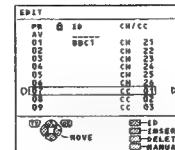


- Press **◀**.

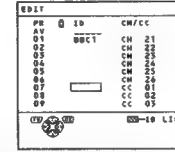


### To add a station ID to a station

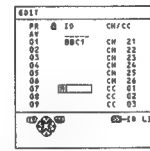
- Press **▼/▲** to select the station.



- Press red button.

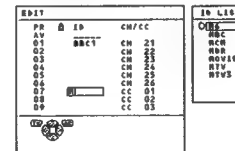


- Press **▼/▲** to select the first letter of the desired station's ID.



- Press blue button.

The **ID LIST** menu appears.

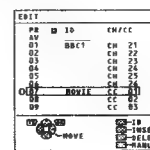


- Press **▼/▲** to select the station ID.

- To cancel the operation, press the **(Information)** button.

- Press **OK**.

Returns to the **EDIT** menu.



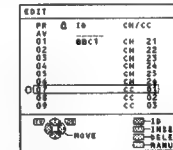
### Programming a station's ID manually

Follow the operations below in place of steps 3 thru 5.

- Press the **▼/▲** button repeatedly to select a character.
  - Press the **▶** button to move cursor to input position.
  - To complete station ID, follow steps (1) and (2) repeatedly.
- A station ID can have up to 5 characters.

### To add a new station to a PR channel

- Press **▼/▲** to select the row containing the PR channel number to which you want to add a station.



- Press green button.

- Press **▼/▲** to display the enter number indicator.

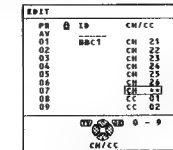
**CH:** to add terrestrial broadcast stations  
**CC:** to add cable TV stations

**AV-32WP2EP, AV-32WZ2EP and AV-28WZ2EP only:**

If **COUNTRY** is set to **FRANCE**, select one of the following four items:

- CH1:** to add a system L terrestrial broadcast channel
- CH2:** to add a system B/G or I terrestrial broadcast channel
- CC1:** to add a system L cable TV channel
- CC2:** to add a system B/G or I cable TV channel

- To cancel the operation, press the **(Information)** button.

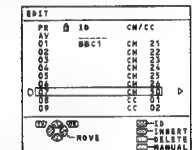


### Note:

- For details on the relationship between the displayed CH/CC number and the actual channel number, see the Channel table on page 31.

- Press the number buttons to enter the channel number.

- To enter a one-digit channel number, enter the corresponding number and press **OK** button.



### Note:

- When you add a station, the station preset to PR99 is deleted.

## OTHER PREPARATION

### To manually allocate a station to PR channel (Manual allocation)

#### Condition:

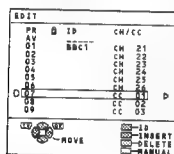
- If your TV is AV-32WP2EP, AV-32WZ2EP or AV-28WZ2EP, you can manually allocate French channels to PR channels.

To manually allocate French stations to PR channels, you must set COUNTRY to FRANCE. If COUNTRY is set to any other country than FRANCE, perform "AUTO PROGRAM" steps 1 thru 4 on page 23 to set COUNTRY to FRANCE. Then press the OK button to return to the INSTALL menu. Finally perform "To edit PR channel" step 2 thru 3 on page 24 to return to the EDIT menu.

- Press  $\nabla/\Delta$  to select a PR channel number.

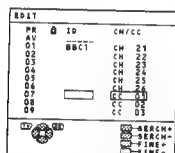
#### Note:

- PR channel number "AV" appears on the screen as PR 0 channel. We recommend that you allocate this PR channel to a VCR connected to the aerial socket.



- Press blue button.

Your TV enters the Manual allocation mode.



- Press green or red button to search for a station.

Scanning stops when the TV receives a broadcast.

Press green or red button to search for another station, and keep searching until you see the station you want.

CH: Terrestrial broadcast stations  
CC: Cable TV stations

#### If reception is poor:

Press the blue or yellow button to fine-tune the station.

If your TV is AV-32WP2EP, AV-32WZ2EP or AV-28WZ2EP: When COUNTRY is set to FRANCE, the broadcast system is displayed as "(B/G)", "(I)" or "(L)" to the right of the PR channel number. If the signal of a station is incorrectly received, press the  $\blacktriangleright$  button to change the broadcast system and then repeat step 3.

#### Note:

- For details on the relationship between the displayed CH/CC number and the actual channel number, see the Channel table on page 31.

- Press OK.

The station is allocated to a PR channel.

### PICTURE TILT

(except AV-28WZ2EN and AV-28WZ2EP)

The AV-32WP2EN, AV-32WP2EP, AV-32WZ2EN or AV-32WZ2EP has a large picture tube in which a picture could be tilted to the left or right because of magnetic pull from the earth. Use the procedure described below to adjust the picture.

#### Note:

- The AV-28WZ2EN or AV-28WZ2EP does not have the tilted image correction function.

- Press OK.

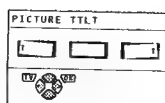
The MENU appears.

- Press  $\nabla/\Delta$  to select PICTURE FEATURES, then press OK.

The PICTURE FEATURES menu appears.

- Press  $\nabla/\Delta$  to select PICTURE TILT, then press OK.

The PICTURE TILT menu appears.



- Press  $\blacktriangleleft/\blacktriangleright$  to select the direction to which you want to correct the tilted image on your screen.

$\blacktriangleleft$  : If it is inclined to the left, select this symbol to correct it.

$\blacktriangleright$  : If it is inclined to the right, select this symbol to correct it.

$\square$  : If it is not inclined to either the left or right, select this symbol to set it as it is.

- Press OK.

The correction is complete.

## CONNECTING AMPLIFIERS AND SPEAKERS

#### Condition:

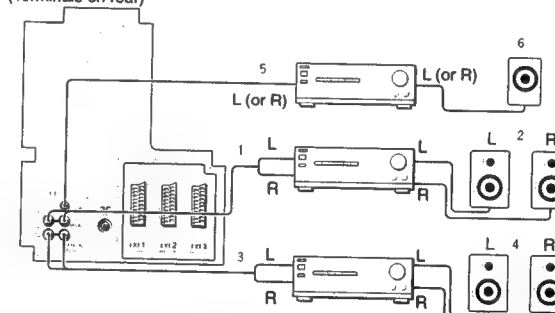
- When connecting audio amplifiers and speakers to your TV:
  - Turn the TV and audio amplifiers off before connecting them.
  - Set the audio amplifiers' volume to minimum.
  - Refer to manuals provided with the amplifier and speakers for further details.

#### Notes:

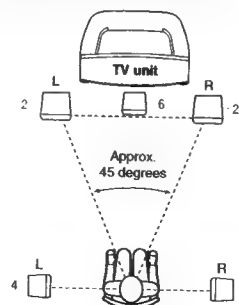
- The AUDIO OUT terminals on your TV are for connecting to an audio system. The output level is controlled by the Volume controls of your TV. The signal from the AUDIO OUT terminals will not cut off when headphones are connected.
- If you connect a Dolby Pro Logic Surround decoder to your TV, use the FRONT L and R jacks. Your TV has Dolby Pro Logic Surround functions, so if you connect an external decoder, turn off all surround function on your TV.

- 1, 3: Stereo amplifier
- 2: Front speakers (magnetic-shielded type, L, R)
- 4: Surround speakers (L, R)
- 5: Stereo amplifier (or monaural amplifier)
- 6: Centre speaker (magnetic-shielded type)

(Terminals on rear)



### Positioning speakers



#### Notes:

- For a good effect, place speakers 4 1.0 m above the seated listener's head.
- For a good effect, place speaker 6 as close as possible to the TV along the same line as or behind speakers 2.
- Use magnetic-shielded speakers for speakers 2 and 6 to avoid TV interference.

### To use 2 external speakers

You can cut off the sound output from the TV's speakers and enjoy sound from external front speakers.

- Connect stereo amplifier ① and front speakers ② to your TV.

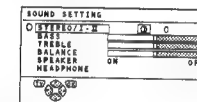
- Turn your TV on, and press the Volume  $\rightarrow$  button to set the volume to the lowest setting.

- Press OK.

The MENU appears.

- Press  $\nabla/\Delta$  to select SOUND SETTING, then press OK.

The SOUND SETTING menu appears.



#### Note:

- When DOLBY PRO LOGIC or PRO LOGIC 3D-PHONIC is selected in DIGITAL SURROUND menu, "SPEAKER" does not appear. In this case, press the OK button to exit the current menu. Then, press the 3D button twice to select SURROUND OFF and repeat from Step 3.

- Press  $\nabla/\Delta$  to select SPEAKER.

- Press  $\blacktriangleleft/\blacktriangleright$  to select OFF.

The TV's speakers become silent.

To output sound from the TV speakers:

Set SPEAKER to ON.

- Press OK.

The menu disappears.

When using the TV speakers as the centre speaker:

When enjoying the DOLBY PRO LOGIC 3D-PHONIC surround sound, it can be set so that 2 external speakers and the TV speakers (used as the centre speaker) can be used at the same time.

(Continued to the next page)

## CONNECTING AMPLIFIERS AND SPEAKERS

In particular, since models other than AV-32WP2EN and AV-32WP2EP do not have a centre speaker built-in to the TV, if this method is used the "dialogue" becomes clearer.

### 1. Press OK.

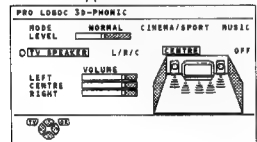
The menu appears.

### 2. Press $\nabla/\Delta$ button to select DIGITAL SURROUND, then press OK.

The DIGITAL SURROUND menu appears.

### 3. Press $\nabla/\Delta$ button to select PRO LOGIC 3D-PHONIC, then press $\blacktriangleright$ .

The PRO LOGIC 3D-PHONIC menu appears.



### 4. Press $\nabla/\Delta$ button to select TV SPEAKER, then press $\blacktriangleleft/\blacktriangleright$ button to select CENTRE.

### 5. Press OK.

The menu disappears.

### 8. Turn your audio amplifier on, and return the volume of your audio amplifier to the normal setting.

#### Note:

- Take care not to set the volume of your audio amplifier too high as this may damage your speakers.

### 9. Press the Volume $-/+$ button to adjust the volume.

- This completes the procedure.

## To use 4 or 5 speakers

You can enjoy Dolby Pro Logic Surround sound with 4 or 5 speakers.

### 1. Connect audio amplifiers and speakers to the TV.

Do one of the following:

- Connect stereo amplifier 3 and surround speakers 4.

- If your TV is AV-32WP2EN or AV-32WP2EP, it has a centre speaker built-in and you can easily enjoy Dolby Pro Logic surround sound using 5 speakers.

- If your TV is not AV-32WP2EN or AV-32WP2EP, although it does not have a centre speaker built-in to the TV, you can easily enjoy Dolby Pro Logic surround sound by using the PHANTOM mode which omits the centre speaker.

- Connect stereo amplifiers 1, 3, front speakers 2, and surround speakers 4. This uses the TV's speakers as the centre speakers.

- Connect stereo amplifiers 1, 3, stereo amplifier (or monaural amplifier) 8, front speakers 2, surround speakers 4, and centre speaker 6. If you use this method, do not output sound from the TV's speakers.

### 2. Turn your TV on, and press the Volume $-/+$ button to set the volume to the normal setting.

### 3. Press OK.

The MENU appears.

### 4. Press $\nabla/\Delta$ to select DIGITAL SURROUND, then press OK.

The DIGITAL SURROUND menu appears, showing the currently selected setting.



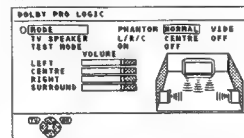
#### Note:

- If DIGITAL SURROUND does not appear, disconnect the headphones from the TV.

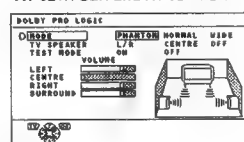
### 5. Press $\nabla/\Delta$ to select DOLBY PRO LOGIC, then press $\blacktriangleright$ .

The DOLBY PRO LOGIC menu appears.

In the case of AV-32WP2EN or AV-32WP2EP:



In the case of models other than AV-32WP2EN and AV-32WP2EP:



### 6. Press $\nabla/\Delta$ to select an item, and press $\blacktriangleleft/\blacktriangleright$ to change its setting.

In the case of AV-32WP2EN or AV-32WP2EP:

Method	Item	
	MODE	TV SPEAKER
A	NORMAL	L/R/C
B	NORMAL	CENTRE
C	NORMAL	OFF
	WIDE	

In the case of models other than AV-32WP2EN and AV-32WP2EP:

Method	Item	
	MODE	TV SPEAKER
A	PHANTOM	L/R
B	NORMAL	CENTRE
C	NORMAL	OFF
	WIDE	

#### Notes:

- Set MODE to WIDE when using a full-range speaker as the centre speaker. Frequencies of 100 Hz or lower are output from the centre speaker to give Dolby Surround an even greater impact.

- Since AV-32WP2EN and AV-32WP2EP have a centre speaker built-in to the TV, it is not necessary to select the PHANTOM mode. If the PHANTOM mode is selected, sound is prevented from coming out of the centre speaker.

### 7. Turn your audio amplifier on, and return the volume of your audio amplifier to the normal setting.

#### Note:

- Take care not to set the volume of your audio amplifier too high as this may damage your speakers.

### 8. Press $\nabla/\Delta$ to select TEST MODE.

### 9. Press $\blacktriangleleft/\blacktriangleright$ to set TEST MODE to ON.

Test signals alternate among the speakers.

#### Note:

- If the test signal level is small to listen to, adjust it with the volume of your audio amplifier. However, take care not to set the volume too high as this may damage your speakers.

### 10. Press $\blacktriangleleft/\blacktriangleright$ to adjust the level of each of the speakers so that their volumes are the same at the listening position (the place where the person is sitting in the diagram, see page 27).

LEFT, RIGHT:  
Front speaker L, R

CENTRE:  
Centre speaker

SURROUND:  
Surround speakers

#### Notes:

- When MODE is set to PHANTOM, the volume of CENTRE (Centre speaker) cannot be adjusted.
- If the volume of both speakers is not the same even after adjusting the volume, adjust the volume of your audio amplifier.

### 11. Press OK.

The menu disappears.

- This completes the procedure.

## TROUBLESHOOTING

- If the plug is disconnected from the AC socket, or the TV aerial has problems, you may think there is a problem with the TV itself. Be sure to check the following before calling for service.

### IMPORTANT

- Review all instructions in this manual.

	Problem	Action
■ GENERAL	No power supply.	Insert the plug in an AC socket. Press the Main power button (see page 6).
	No picture or sound.	Check aerial connections (see page 4). Press the number 0 button to select the correct mode (see page 10). Select the correct colour system manually (see page 11).
	The power shuts off automatically.	Press the Standby button to turn the power on again (see page 6)
	Inoperable remote control.	Replace the batteries (see page 2). Insert the batteries correctly (see page 2). Use the remote control within about 7 metres of the TV.
	MENU can not be displayed.	Are you watching the Teletext screen? None of the MENU operations are possible in the Text mode. Perform the MENU operation after pressing the TV/Text button to cancel the Text mode.
■ PICTURE	Poor colour.	Adjust COLOUR and BRIGHT (see page 12). Select the correct colour system manually (see page 11).
	The screen mode suddenly changed.	The ZOOM mode's automatic selective function is working (see page 13).
	The picture is tilted (AV-32WP2EN/EP, AV-32WZ2EN/EP only).	Use the PICTURE TILT to correct the tilt (see page 26).
	The SUB-picture image is disordered.	If the MAIN-picture image signal condition is bad, the SUB-picture image may be disordered. If the MAIN-picture image signal condition is improved, the SUB-picture image also improves.
	The top and bottom of the MAIN-picture or SUB-picture are missing.	If the picture standard of the MAIN-picture and SUB-picture are different, the top and bottom of one of them may be missing.
	The SUB-picture display suddenly disappears.	If an external device is operated, the SUB-picture may disappear. If this happens, press the PIP button once more and redisplay the SUB-picture.

AV-32WZ2EN  
AV-32WZ2EP  
AV-28WZ2EN  
AV-28WZ2EP

## TROUBLESHOOTING

	Problem	Action
■ PICTURE	The same image is displayed in both the MAIN-picture and SUB-picture.	If the SWAP button is pressed when the image from the external decoder is displayed in the MAIN-picture, the same image is displayed in both the MAIN-picture and SUB picture. If the SWAP button is pressed once more, the previous state is returned to.
	Lines or streaks in picture (interference).	Move the components apart until the interference is eliminated. Reposition the aerial.
	Spots (crosstalk).	Reposition the aerial. Replace with an aerial with better directionality.
	Double pictures (ghosts).	Reposition the aerial. Replace with an aerial with better directionality.
	Snowy pictures (noise).	Check aerial connections. Redirect the aerial. Replace or repair the aerial.
	The screen turns blue.	The BLUE BACK function is on (see page 16).
■ SOUND	No sound from the TV's speakers.	Disconnect the headphones. If you want to have sound come from both the TV's speaker and headphones, set TV SPEAKER in the HEADPHONE menu to ON. (See page 8.) Set SPEAKER to ON (see page 27).
	The headphone volume level can not be adjusted.	It can not be adjusted with the Volume +/- button. Adjust it with the VOLUME function in the HEADPHONE menu. (See page 8.)
	The sound from the TV does not stop even if the headphones are connected.	TV SPEAKER in the HEADPHONE menu is set to ON. Change the setting to OFF. (See page 8.)
	No stereo sound.	Change STEREO/I+II to CD mode (see page 11). Is TV SPEAKER on the PRO LOGIC 3D-PHONIC menu or DOLBY PRO LOGIC menu set to CENTRE? Change the TV SPEAKER setting to L/R/C or L/C. (See pages 27 and 28.) When the SUB-picture is in TV mode, the SUB-picture sound is monaural only.
	No "SUB-I" or "SUB-II" sound in a multisound broadcast.	Change STEREO/I+II to the correct mode (see page 11). The Multi sound function does not work for the SUB-picture sound.
	Surround function does not function properly.	Dolby Pro Logic Surround and DOLBY PRO LOGIC 3D-PHONIC work properly only with Dolby Surround encoded programmes. Functions other than HYPER SOUND and the Headphone surround functions work properly only with stereo programmes. HYPER SOUND works properly only with monaural programmes. None of the surround sound functions work for the SUB picture sound.
	The POWER BASS function does not work.	Are you listening to the SUB picture sound? The POWER BASS function does not work for the SUB picture sound.
	No teletext reception.	Tune to a teletext broadcast channel (see page 18). We recommend that you not videotape teletext, as it may not be recorded correctly.
■ TELETEXT	The current time is not displayed.	Tune to a teletext broadcast channel (see page 16).

## The following are normal and are NOT malfunctions:

- When you touch the CRT surface, you might feel a slight charge of static electricity. This is because the CRT contains static electricity; it does not affect the human body.
- The TV may emit a crackling sound due to a sudden change in temperature. There is no problem unless the picture or sound is abnormal.
- When a bright a still image (of a white dress, for example) appears on the screen, the image may be coloured. This problem occurs in all CRTs, and as the bright image disappears, such colouration also disappears.
- This TV is equipped with a microcomputer that may operate abnormally due to interference from external components. If this happens, turn off the main power and disconnect the power cord from the AC socket. Then reconnect the power cord to AC socket and turn on the main power again.

## Channel table

- The following table shows the relationship between the displayed CH/CC channel number and the actual channel number.
- The actual channel numbers for the "CC" channel numbers from CC110 to CC161 differ depending on the cable TV station. Check which actual channel numbers correspond to which "CC" channels while referring to the broadcast frequencies which are indicated in the channel tables of each cable TV station. If you can not find the broadcast frequency for a channel, contact the cable TV station.

CH	Channel	CH	Channel	CC	Channel	CC	Channel
CH 02 / CH 202	E2	CH 40 / CH 240	E40	CC 01 / CC 201	S1	CC 31 / CC 231	S31
CH 03 / CH 203	E3, ITALY A	CH 41 / CH 241	E41	CC 02 / CC 202	S2	CC 32 / CC 232	S32
CH 04 / CH 204	E4, ITALY B	CH 42 / CH 242	E42	CC 03 / CC 203	S3	CC 33 / CC 233	S33
CH 05 / CH 205	E5, ITALY D	CH 43 / CH 243	E43	CC 04 / CC 204	S4	CC 34 / CC 234	S34
CH 06 / CH 206	E6, ITALY E	CH 44 / CH 244	E44	CC 05 / CC 205	S5	CC 35 / CC 235	S35
CH 07 / CH 207	E7, ITALY F	CH 45 / CH 245	E45	CC 06 / CC 206	S6	CC 36 / CC 236	S36
CH 08 / CH 208	E8	CH 46 / CH 246	E46	CC 07 / CC 207	S7	CC 37 / CC 237	S37
CH 09 / CH 209	E9, ITALY G	CH 47 / CH 247	E47	CC 08 / CC 208	S8	CC 38 / CC 238	S38
CH 10 / CH 210	E10, ITALY H	CH 48 / CH 248	E48	CC 09 / CC 209	S9	CC 39 / CC 239	S39
CH 11 / CH 211	E11, ITALY H+1	CH 49 / CH 249	E49	CC 10 / CC 210	S10	CC 40 / CC 240	S40
CH 12 / CH 212	E12, ITALY H+2	CH 50 / CH 250	E50	CC 11 / CC 211	S11	CC 41 / CC 241	S41
CH 21 / CH 221	E21	CH 51 / CH 251	E51	CC 12 / CC 212	S12	CC 75 / CC 275	X
CH 22 / CH 222	E22	CH 52 / CH 252	E52	CC 13 / CC 213	S13	CC 76 / CC 276	Y
CH 23 / CH 223	E23	CH 53 / CH 253	E53	CC 14 / CC 214	S14	CC 77 / CC 277	Z, ITALY C
CH 24 / CH 224	E24	CH 54 / CH 254	E54	CC 15 / CC 215	S15	CC 78 / CC 278	Z+1
CH 25 / CH 225	E25	CH 55 / CH 255	E55	CC 16 / CC 216	S16	CC 79 / CC 279	Z+2
CH 26 / CH 226	E26	CH 56 / CH 256	E56	CC 17 / CC 217	S17		
CH 27 / CH 227	E27	CH 57 / CH 257	E57	CC 18 / CC 218	S18		
CH 28 / CH 228	E28	CH 58 / CH 258	E58	CC 19 / CC 219	S19		
CH 29 / CH 229	E29	CH 59 / CH 259	E59	CC 20 / CC 220	S20		
CH 30 / CH 230	E30	CH 60 / CH 260	E60	CC 21 / CC 221	S21		
CH 31 / CH 231	E31	CH 61 / CH 261	E61	CC 22 / CC 222	S22		
CH 32 / CH 232	E32	CH 62 / CH 262	E62	CC 23 / CC 223	S23		
CH 33 / CH 233	E33	CH 63 / CH 263	E63	CC 24 / CC 224	S24		
CH 34 / CH 234	E34	CH 64 / CH 264	E64	CC 25 / CC 225	S25		
CH 35 / CH 235	E35	CH 65 / CH 265	E65	CC 26 / CC 226	S26		
CH 36 / CH 236	E36	CH 66 / CH 266	E66	CC 27 / CC 227	S27		
CH 37 / CH 237	E37	CH 67 / CH 267	E67	CC 28 / CC 228	S28		
CH 38 / CH 238	E38	CH 68 / CH 268	E68	CC 29 / CC 229	S29		
CH 39 / CH 239	E39	CH 69 / CH 269	E69	CC 30 / CC 230	S30		

(Continued to the next page)

**Channel table**

CH	Channel	CH	Channel	CC	Frequency (MHz)	CC	Frequency (MHz)
CH 102	F2	CH 141	F41	CC 110	116 - 124	CC 151	383 - 391
CH 103	F3	CH 142	F42	CC 111	124 - 132	CC 152	391 - 399
CH 104	F4	CH 143	F43	CC 112	132 - 140	CC 153	399 - 407
CH 105	F5	CH 144	F44	CC 113	140 - 148	CC 154	407 - 415
CH 106	F6	CH 145	F45	CC 114	148 - 156	CC 155	415 - 423
CH 107	F7	CH 146	F46	CC 115	156 - 164	CC 156	423 - 431
CH 108	F8	CH 147	F47	CC 116	164 - 172	CC 157	431 - 439
CH 109	F9	CH 148	F48	CC 123	220 - 228	CC 158	439 - 447
CH 110	F10	CH 149	F49	CC 124	228 - 236	CC 159	447 - 455
CH 121	F21	CH 150	F50	CC 125	236 - 244	CC 160	455 - 463
CH 122	F22	CH 151	F51	CC 126	244 - 252	CC 161	463 - 469
CH 123	F23	CH 152	F52	CC 127	252 - 260		
CH 124	F24	CH 153	F53	CC 128	260 - 268		
CH 125	F25	CH 154	F54	CC 129	268 - 276		
CH 126	F26	CH 155	F55	CC 130	276 - 284		
CH 127	F27	CH 156	F56	CC 131	284 - 292		
CH 128	F28	CH 157	F57	CC 132	292 - 300		
CH 129	F29	CH 158	F58	CC 133	300 - 306		
CH 130	F30	CH 159	F59	CC 141	306 - 311		
CH 131	F31	CH 160	F60	CC 142	311 - 319		
CH 132	F32	CH 161	F61	CC 143	319 - 327		
CH 133	F33	CH 162	F62	CC 144	327 - 335		
CH 134	F34	CH 163	F63	CC 145	335 - 343		
CH 135	F35	CH 164	F64	CC 146	343 - 351		
CH 136	F36	CH 165	F65	CC 147	351 - 359		
CH 137	F37	CH 166	F66	CC 148	359 - 367		
CH 138	F38	CH 167	F67	CC 149	367 - 375		
CH 139	F39	CH 168	F68	CC 150	375 - 383		
CH 140	F40	CH 169	F69				

## SPECIFICATIONS

Model	AV-32WP2EN		AV-32WZ2EN	AV-28WZ2EN
Item				
TV RF systems	CCIR B/G			
Colour systems	PAL, SECAM (NTSC 3.58 / 4.43 MHz only in EXT modes)			
Channels and frequencies	E2-E12, E21-E69, S1-S41, X, Y, Z, Z+1, Z+2, A-H, H+1, H+2			
Sound-multiplex systems	A2/NICAM system			
Teletext systems	Fastext (United Kingdom system) / TOP (German system) / WST (standard system)			
Power requirements	AC 220 – 240 V, 50 Hz			
Power consumption	Maximum 266 W, Average 161 W, Standby 0.8 W	Maximum 248 W, Average 151 W, Standby 0.8 W	Maximum 242 W, Average 147 W, Standby 0.8 W	
Picture tube size	Visible area 76 cm (measured diagonally)		Visible area 66 cm (measured diagonally)	
Audio output	Rated Power output 20 W + 20 W + 5 W		Rated Power output 20 W + 20 W	
Speakers	10 cm round × 2, 3.5 cm round × 2, (10 cm × 3 cm oval) × 1		10 cm round × 2, 3.5 cm round × 2	
External input / output	EXT-1, EXT-2, EXT-3		21-pin Euroconnector (SCART)	
	EXT-4		VIDEO IN (RCA) AUDIO L / R IN (RCA) S-VIDEO IN (Mini Din 4-pin)	
	AUDIO OUT		(Variable out (0-1 Vrms), low impedance) CENTRE output (RCA) FRONT L/R output (RCA) SURROUND REAR L/R output (RCA)	
	Headphone jack (stereo mini jack, dia. 3.5 mm)			
Dimensions (W × H × D)	805 mm × 550 mm × 550 mm			716 mm × 489 mm × 496 mm
Weight	50.3 kg		50.2 kg	
Accessories	Remote control unit RM-C791 × 1 AAA (R03) dry cell battery × 2		Remote control unit RM-C793 × 1 AAA (R03) dry cell battery × 2	

**Design and specifications subject to change without notice.**

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AV-32WZ2EN  
AV-32WZ2EP  
AV-28WZ2EN  
AV-28WZ2EP

AV-32WZ2EN  
AV-32WZ2EP  
AV-28WZ2EN  
AV-28WZ2EP

AV-32WZ2EN  
AV-32WZ2EP  
AV-28WZ2EN  
AV-28WZ2EP

# AV-32WP2EN(A)/AV-32WP2EP(A)

## STANDARD CIRCUIT DIAGRAM

### ■ NOTE ON USING CIRCUIT DIAGRAMS

#### 1. SAFETY

The components identified by the  $\Delta$  symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.

#### 2. SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

- |   |  |
|---|--|
| (1) Input signal  | : PAL Colour bar signal  |
| (2) Setting positions of each knob/button and variable resistor | : Original setting position when shipped   |
| (3) Internal resistance of tester                               | : DC 20k $\Omega$ / V  |
| (4) Oscilloscope sweeping time                                  | : H $\Rightarrow$ 20 $\mu$ S/div<br>: V $\Rightarrow$ 5mS/div<br>: Others $\Rightarrow$ Sweeping time is specified |
| (5) Voltage values  | : All DC voltage values  |
- \* Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

#### 3. INDICATION OF PARTS SYMBOL [EXAMPLE]

- In the PW board : R1209  $\rightarrow$  R209

#### 4. INDICATIONS ON THE CIRCUIT DIAGRAM

##### (1) Resistors

###### ● Resistance value

- |         |                 |
|---------|-----------------|
| No unit | : [ $\Omega$ ]  |
| K       | : [K $\Omega$ ] |
| M       | : [M $\Omega$ ] |

###### ● Rated allowable power

- |               |                |
|---------------|----------------|
| No indication | : 1/6[W]       |
| Others        | : As specified |

###### ● Type

- |               |                             |
|---------------|-----------------------------|
| No indication | : Carbon resistor           |
| OMR           | : Oxide metal film resistor |
| MFR           | : Metal film resistor       |
| MPR           | : Metal plate resistor      |
| UNFR          | : Uninflammbler resistor    |
| FR            | : Fusible resistor          |

\* Composition resistor 1/2 [W] is specified as 1/2S or Comp.

##### (2) Capacitors

###### ● Capacitance value

- |             |              |
|-------------|--------------|
| 1 or higher | : [pF]       |
| less than 1 | : [ $\mu$ F] |

###### ● Withstand voltage

- |               |                            |
|---------------|----------------------------|
| No indication | : DC50[V]                  |
| Others        | : DC withstand voltage [V] |

###### \* Electrolytic Capacitors

47/50[Example]: Capacitance value [ $\mu$ F]/withstand voltage[V]

###### ● Type

- |               |                                     |
|---------------|-------------------------------------|
| No indication | : Ceramic capacitor                 |
| MY            | : Mylar capacitor                   |
| MM            | : Metalized mylar capacitor         |
| PP            | : Polypropylene capacitor           |
| MPP           | : Metalized polypropylene capacitor |
| MF            | : Metalized film capacitor          |
| TF            | : Thin film capacitor               |
| BP            | : Bipolar electrolytic capacitor    |
| TAN           | : Tantalum capacitor                |

##### (3) Coils

- |         |                |
|---------|----------------|
| No unit | : [ $\mu$ H]   |
| Others  | : As specified |

##### (4) Power Supply

- |  |           |
|--|-----------|
|  | : B1      |
|  | : B2(12V) |
|  | : 9V      |
|  | : 5V      |

\* Respective voltage values are indicated

##### (5) Test point

- |  |                           |
|--|---------------------------|
|  | : Test point              |
|  | : Only test point display |

##### (6) Connecting method

- |  |                         |
|--|-------------------------|
|  | : Connector             |
|  | : Wrapping or soldering |
|  | : Receptacle            |

##### (7) Ground symbol

- |  |                                 |
|--|---------------------------------|
|  | : LIVE side ground              |
|  | : ISOLATED(NEUTRAL) side ground |
|  | : EARTH ground                  |
|  | : DIGITAL ground                |

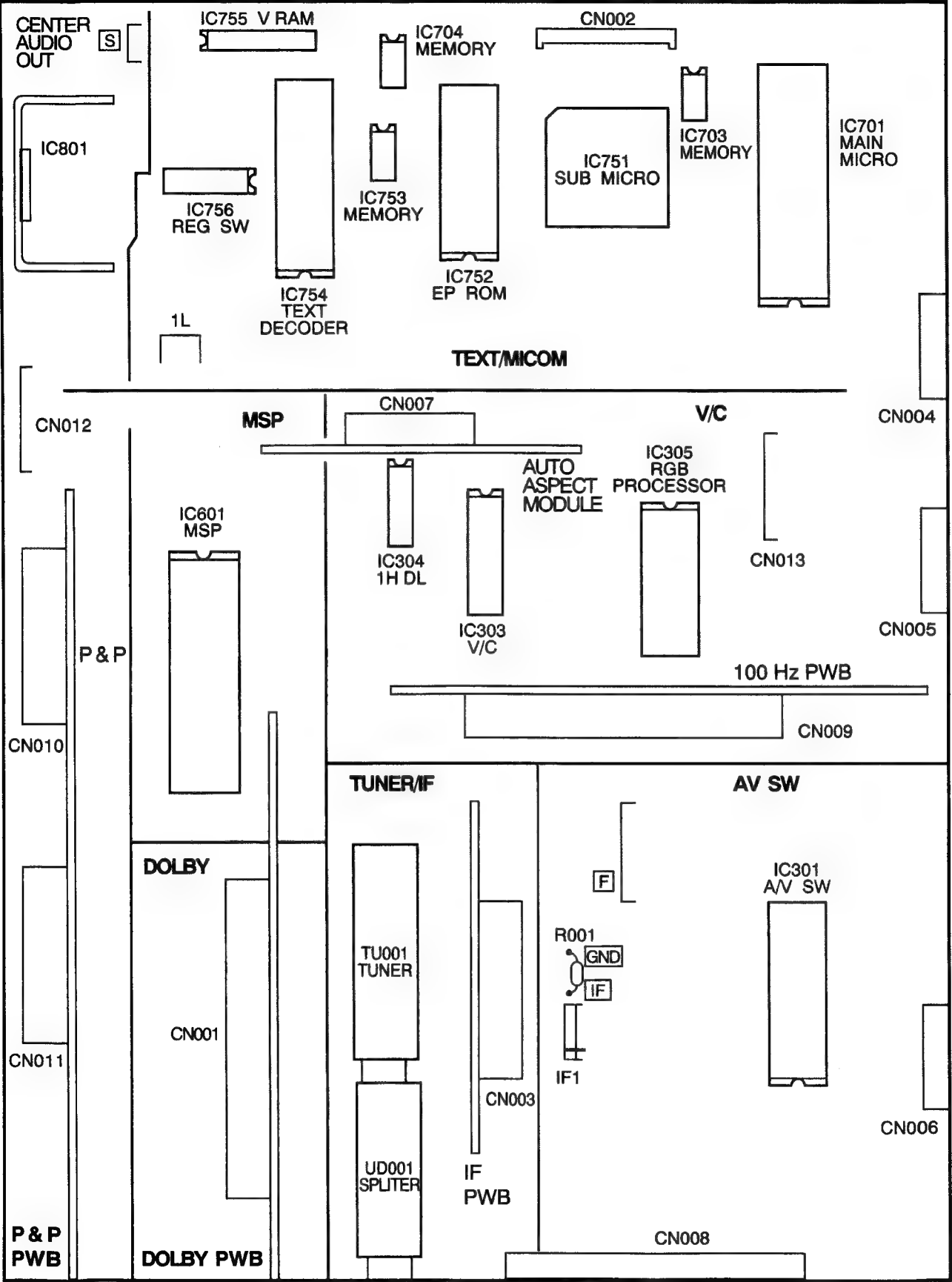
### 5. NOTE FOR REPAIRING SERVICE

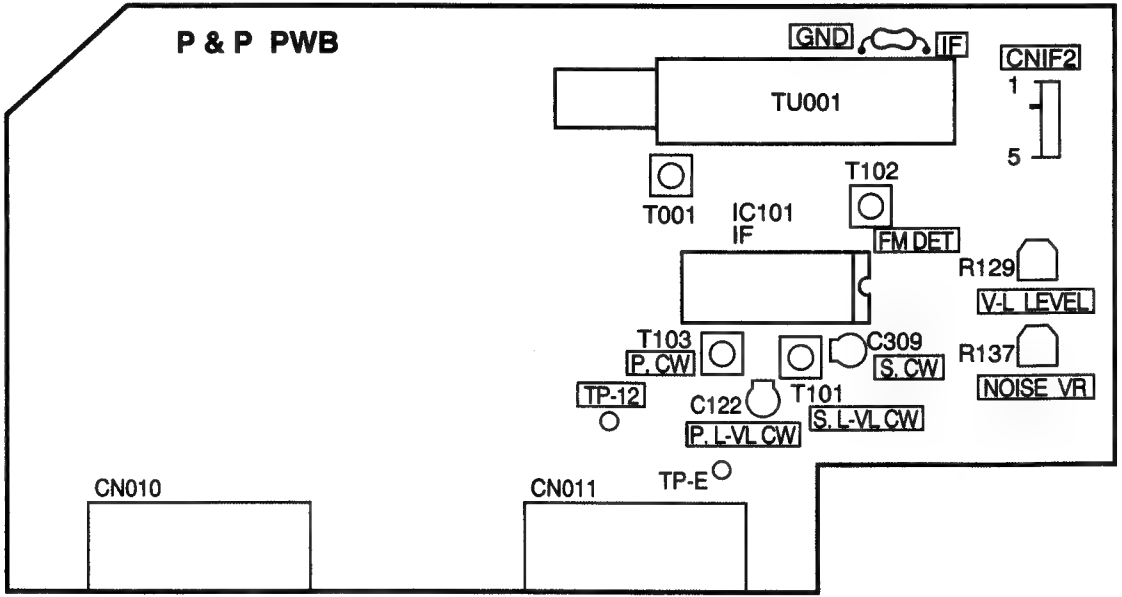
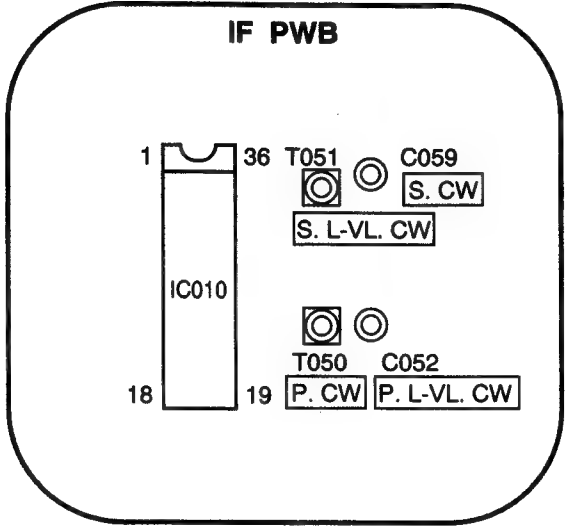
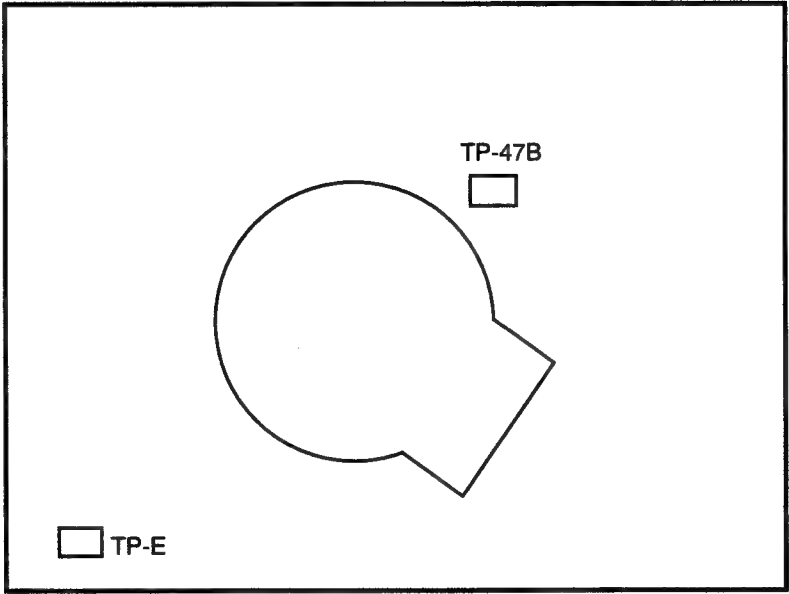
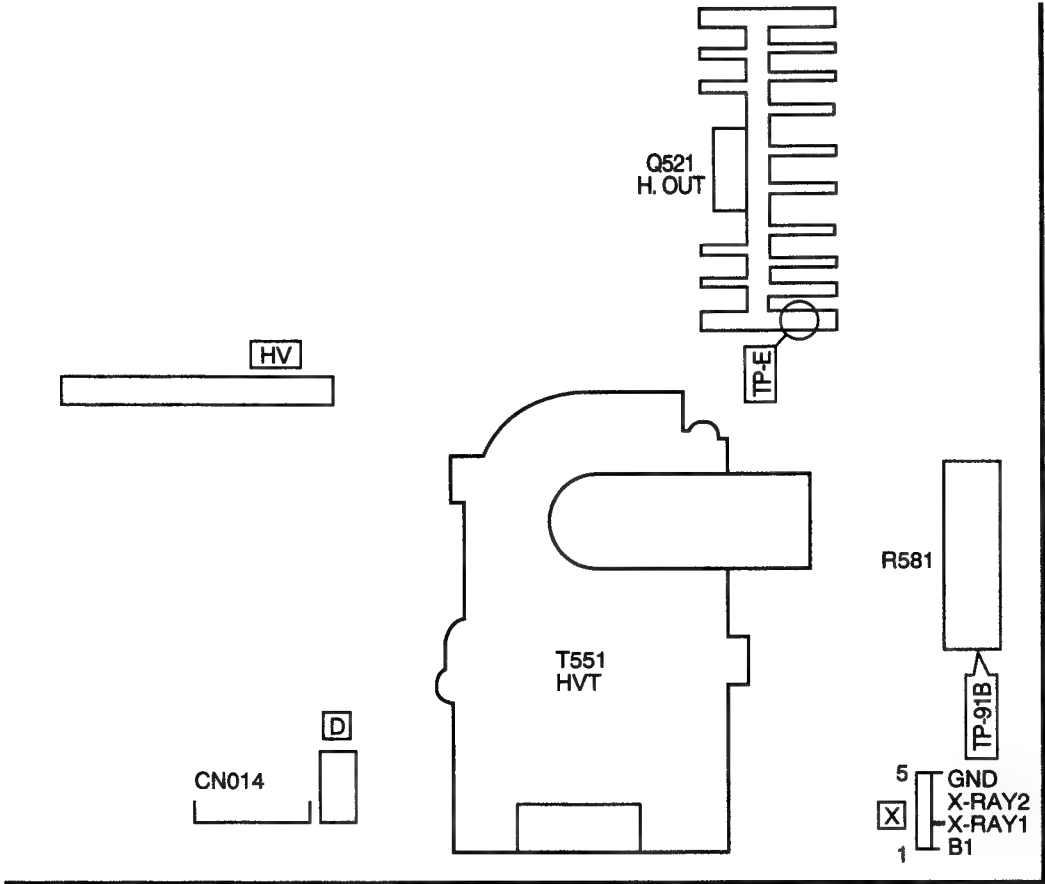
This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE (  $\perp$  ) side GND and the ISOLATED(NEUTRAL) (  $\downarrow$  ) side GND. Therefore, care must be taken for the following points.

- (1) Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.
- (2) Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus ( oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time. If the above precaution is not respected, a fuse or any parts will be broken.

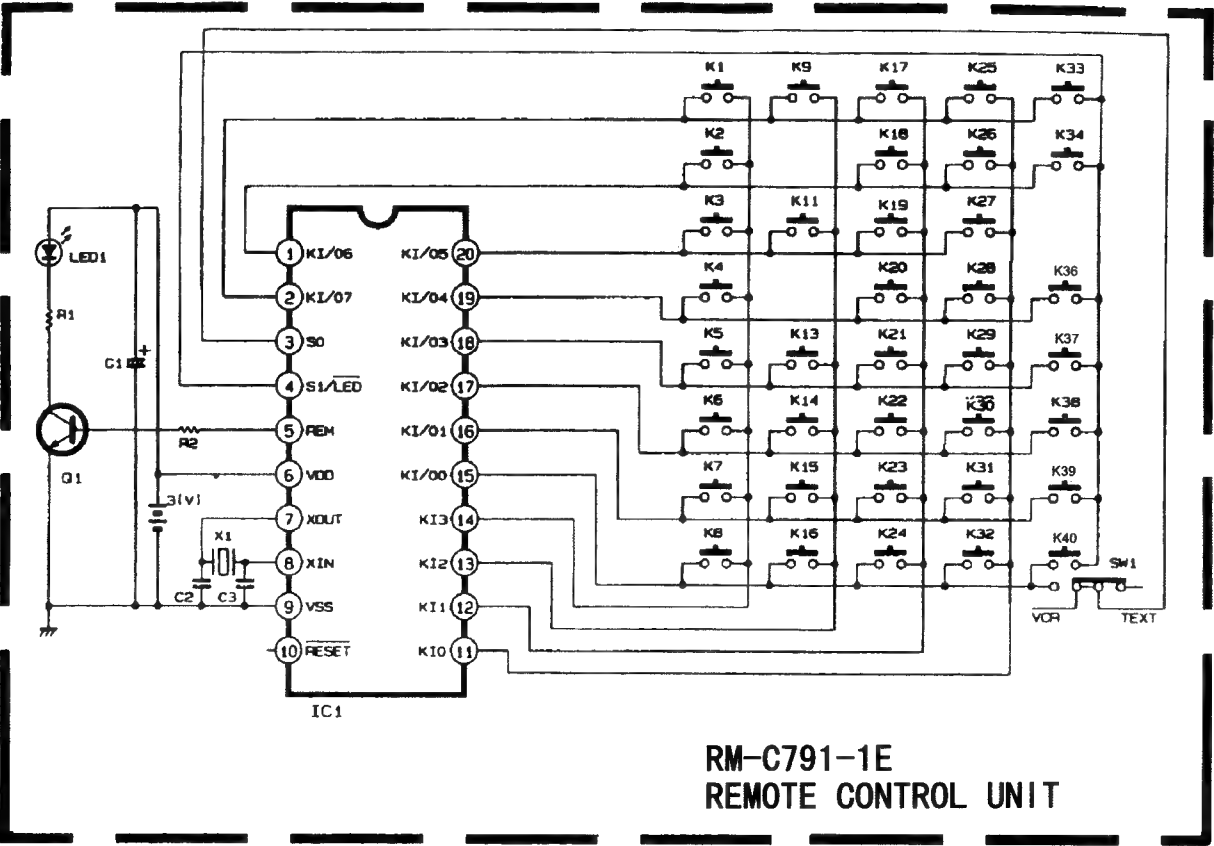
◇ Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

【 MAIN PARTS LOCATION AND ALIGNMENTS LOCATION】





















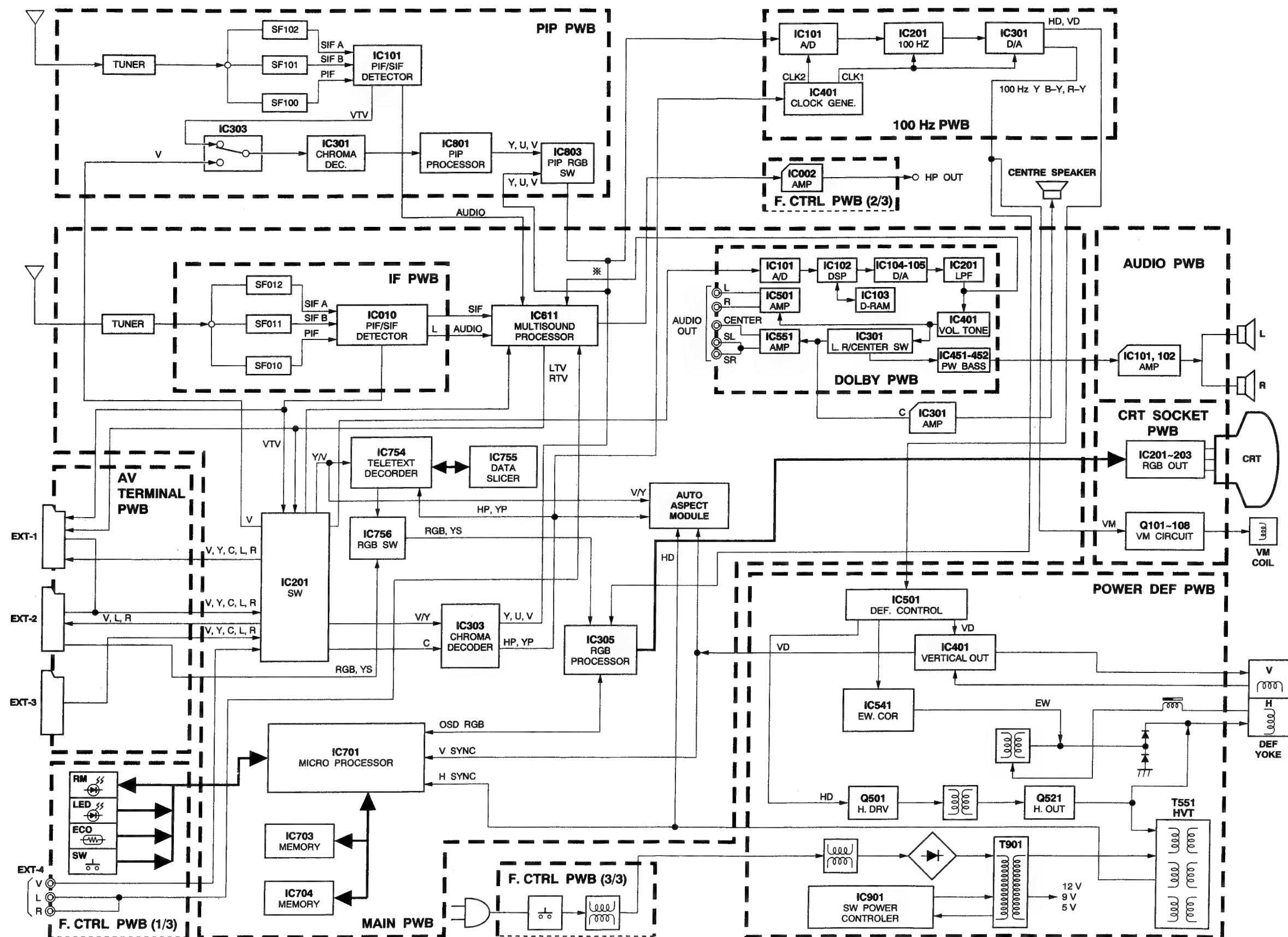
【 REMOTE CONTROL UNIT CIRCUIT DIAGRAM 】



■KEY FUNCTION

No.	Key Name	No.	Key Name	No.	Key Name	No.	Key Name
1	1	14	3D 	22	MODE (TEXT)	29	CANCEL (TEXT)
2	2	15	P.BASS		REW  (VCR)		STOP  (VCR)
3	3	16	PIP	23	SIZE (TEXT)	30	INDEX (TEXT)
4	4	17			FF  (VCR)		 (VCR)
5	5	18	REVEAL (TEXT)	24	SUB PAGE(TEXT)	31	
6	6		PLAY  (VCR)		P V (VCR)	32	
7	7	19	TV	25		33	
8	8	20	MENU/OK	26	STORE (TEXT)	34	
9	9	21	HOLD (TEXT)		(VCR)	36	FREEZE
11	0		P  (VCR)	27	 (VCR)	37	MULTI
13	ZOOM			28		38	SWAP
						39	SUB-P V
						40	SUB-P 

【 BLOCK DIAGRAM 】

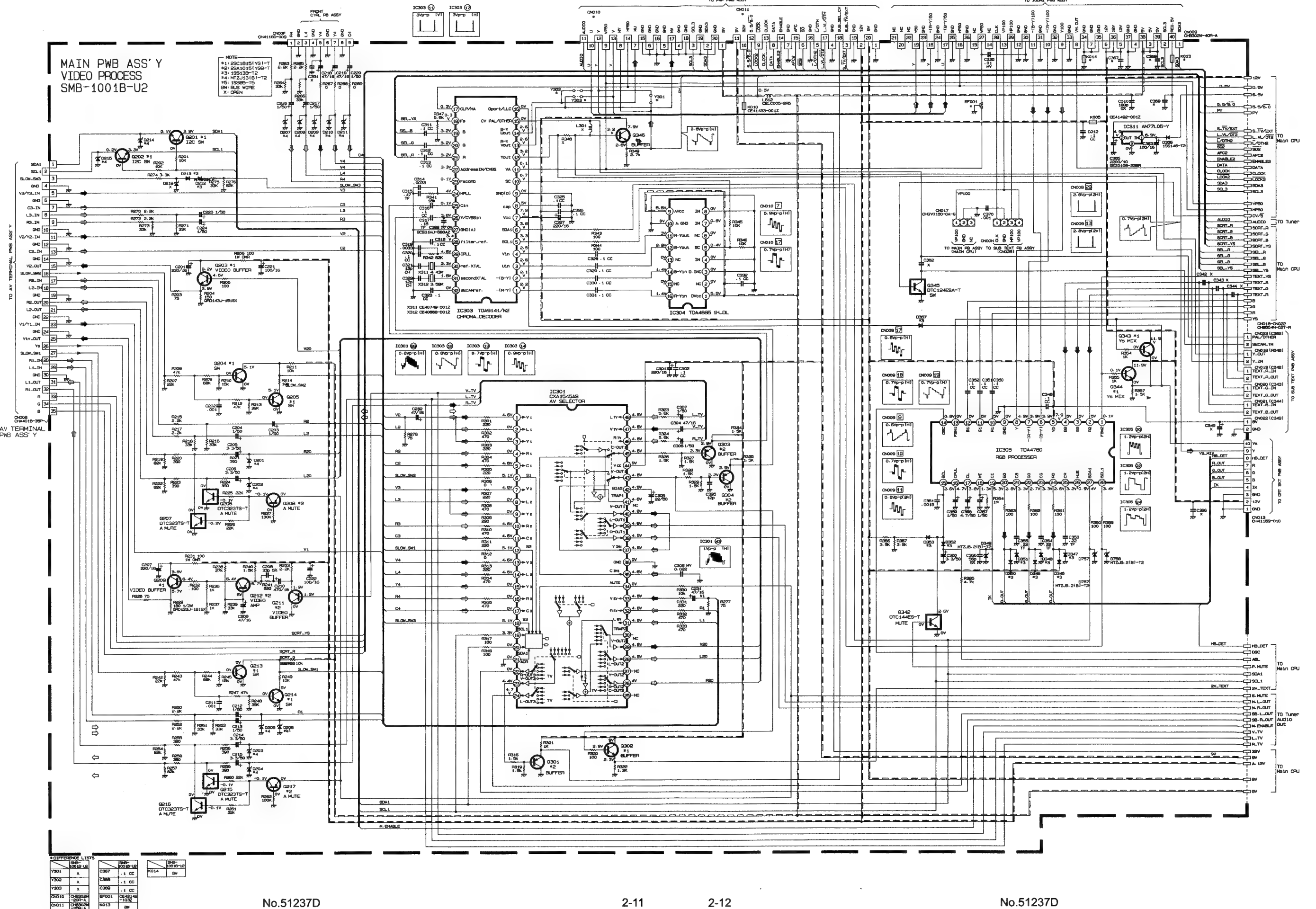




DIFFERENCE LIST	
U0001	940- CE9F481 -001
U0001	CE94010 -001
K0002	CE14433 -001
IC001	TAB2134
H001	CE00017 -001
00002	CE939 -001
R0004	00
R0005	33k
R0006	10k
R0009	90012C -0002
R0010	00
C0002	10/50
C0003	10/50
C0005	100/25
C0006	10/50 BP
C0007	- 12
C0008	1000/35
C0009	1000/15
C0010	1000/15
C0011	-0022

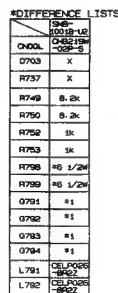


MAIN PWB ASS'Y  
VIDEO PROCESS  
SMB-1001B-U2

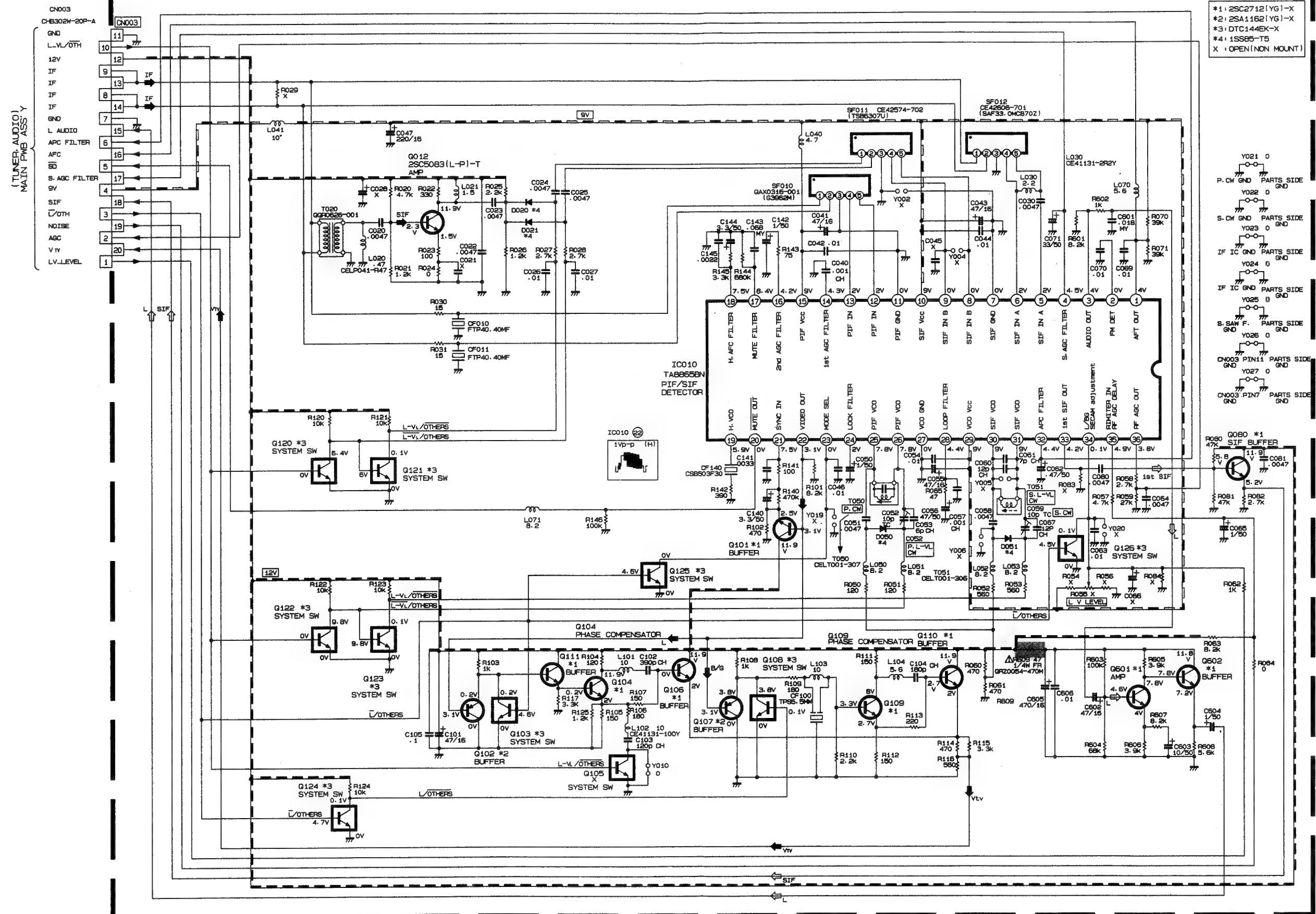


AV-32WP2EN  
AV-32WP2EP

MAIN PWB ASS'Y(Main CPU)  
SMB-1001B-U2



IF PWB ASS' Y SMBOF701B-U2



NOTE

*1: 2SC2712(YG)-X
*2: 2SA1162(YG)-X
*3: DTC144EK-X
*4: 1SS85-T5
X: OPEN(NON MOUNT)

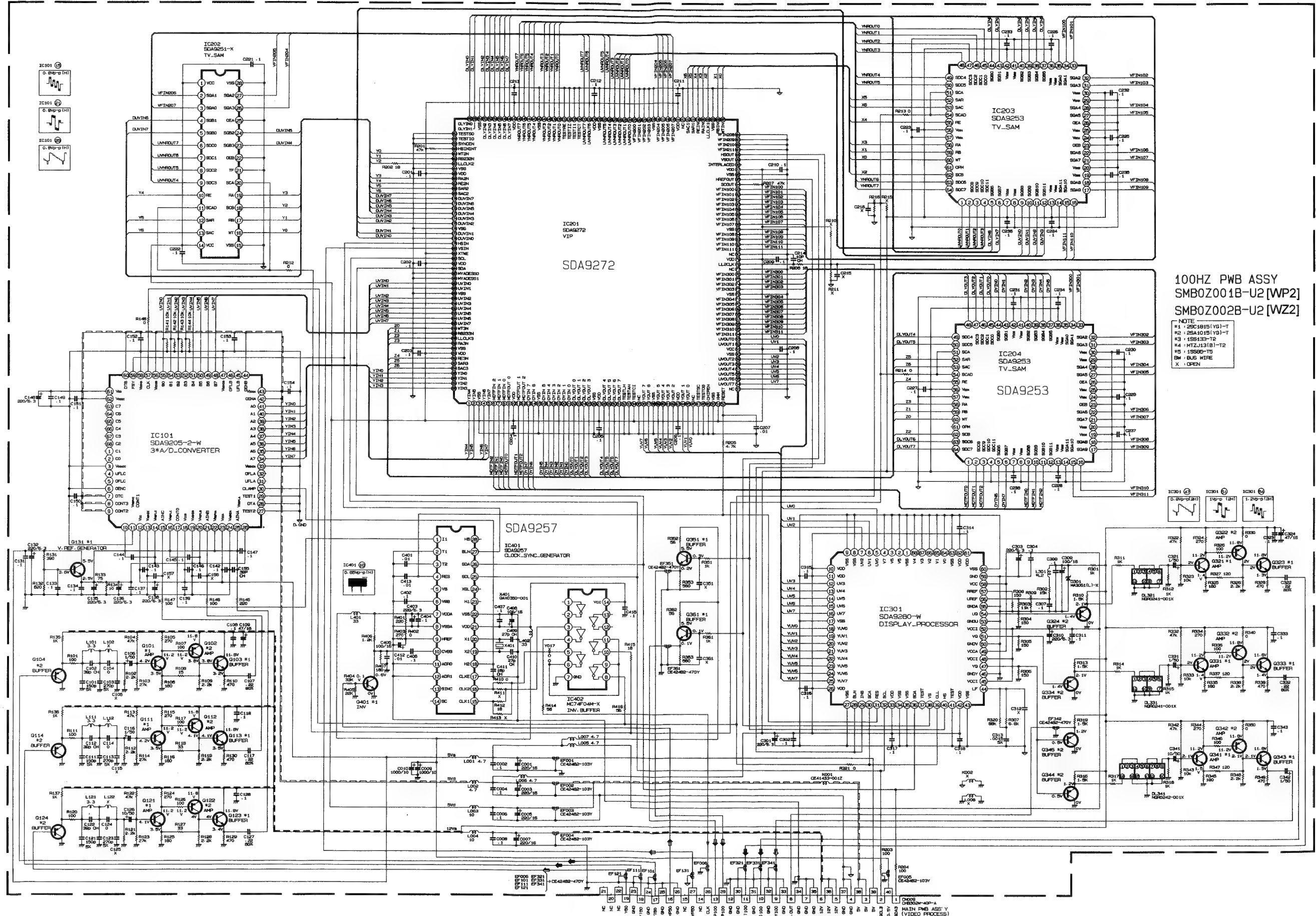
Figure 1 is a schematic diagram of the test circuit for the 74VHC00. It shows a series of inverters connected in a chain. The input of the first inverter is labeled 'P. CW' and 'GND'. The output of the first inverter is labeled 'Y021 0'. The input of the second inverter is labeled 'S. CW' and 'GND'. The output of the second inverter is labeled 'Y022 0'. The input of the third inverter is labeled 'IF IC' and 'GND'. The output of the third inverter is labeled 'Y023 0'. The input of the fourth inverter is labeled 'IF IC' and 'GND'. The output of the fourth inverter is labeled 'Y024 0'. The input of the fifth inverter is labeled 'S. SAW F.' and 'GND'. The output of the fifth inverter is labeled 'Y025 0'. The input of the sixth inverter is labeled 'ON003 PIN11' and 'GND'. The output of the sixth inverter is labeled 'Y026 0'. The input of the seventh inverter is labeled 'ON003 .PIN7' and 'GND'. The output of the seventh inverter is labeled 'Y027 0'. The circuit is labeled 'PARTS SIDE' and 'GND'.



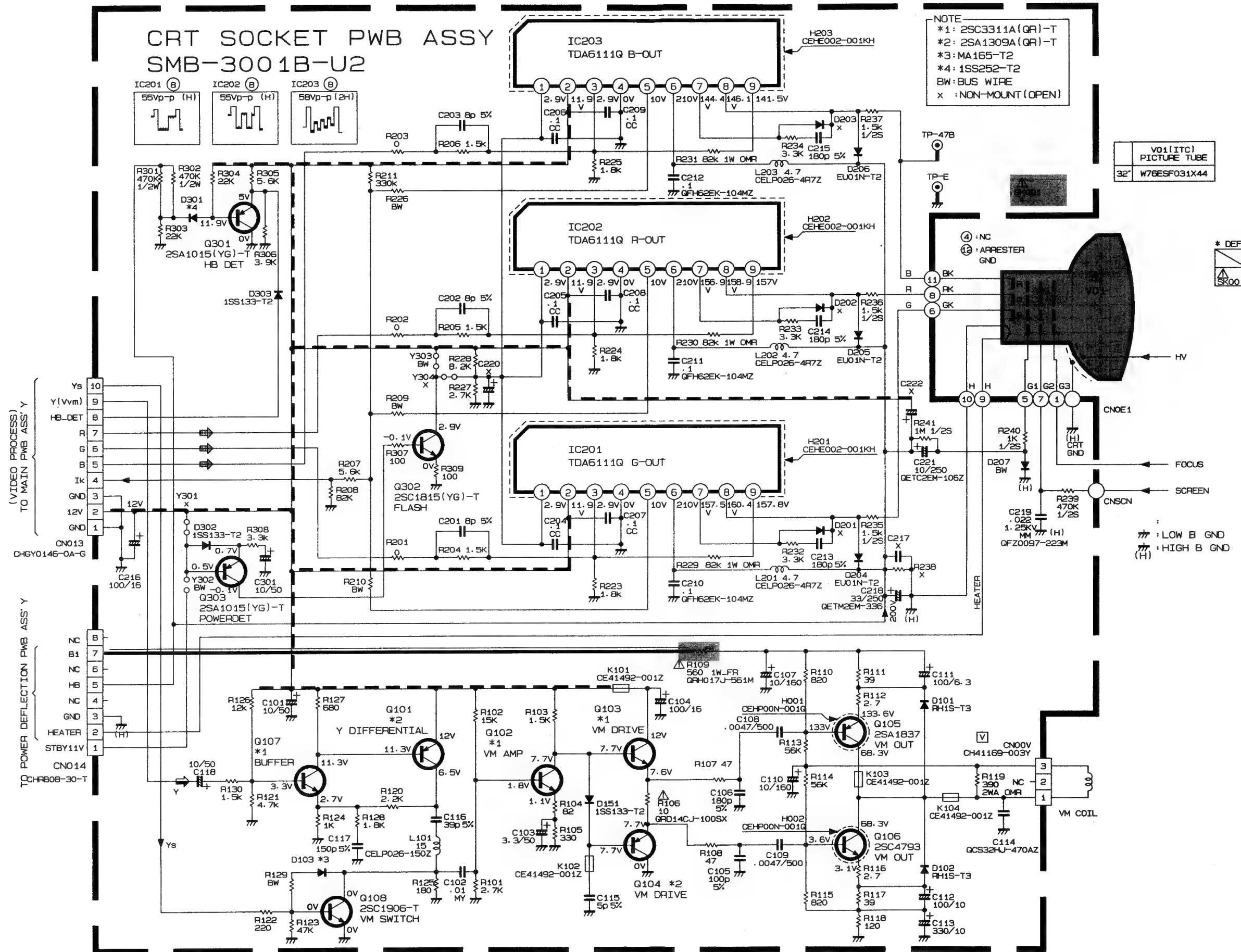
AV-32WP2EN  
AV-32WP2EP

AV-32WP2EN  
AV-32WP2EP

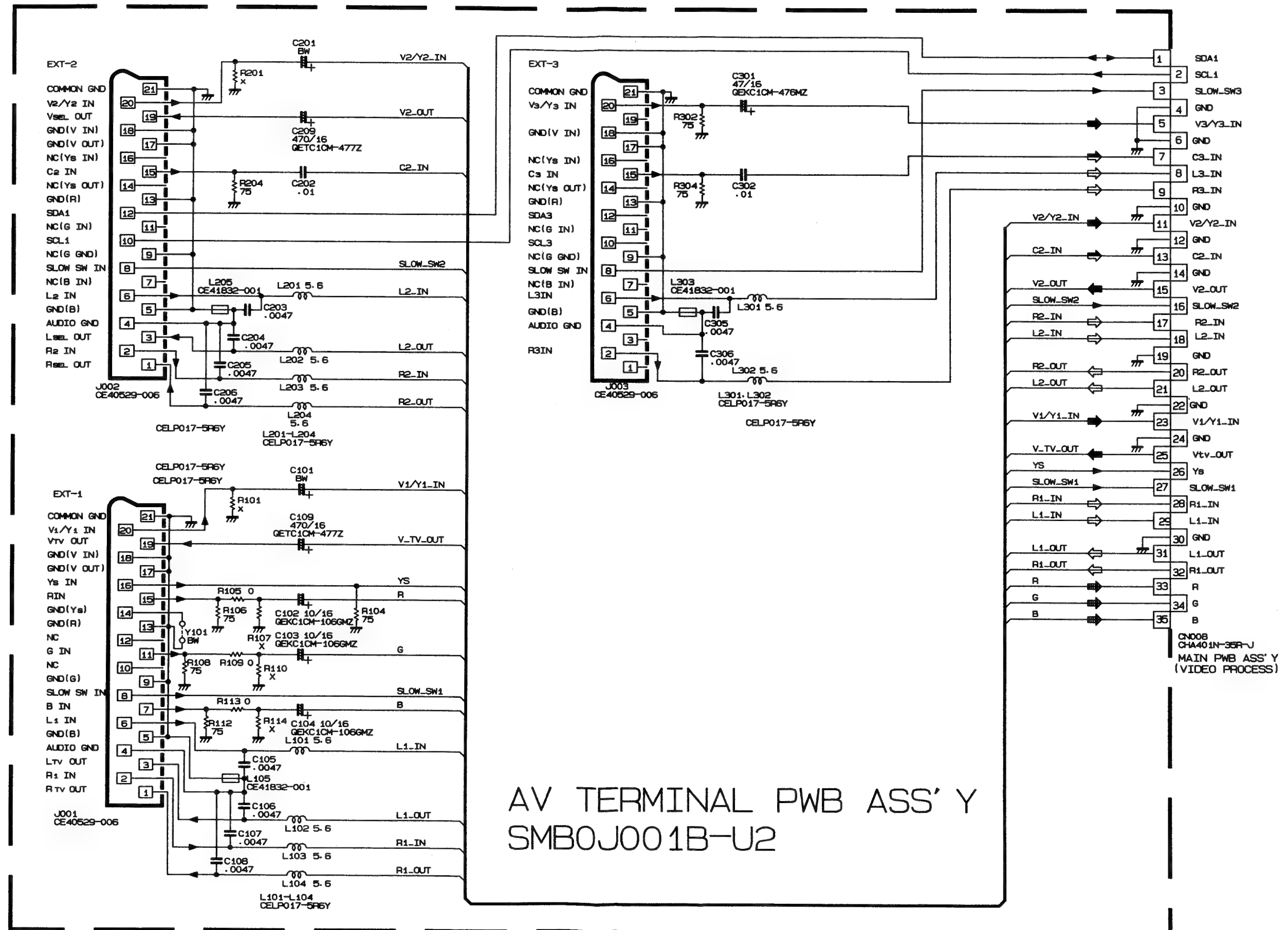
【 100Hz PWB CIRCUIT DIAGRAM 】



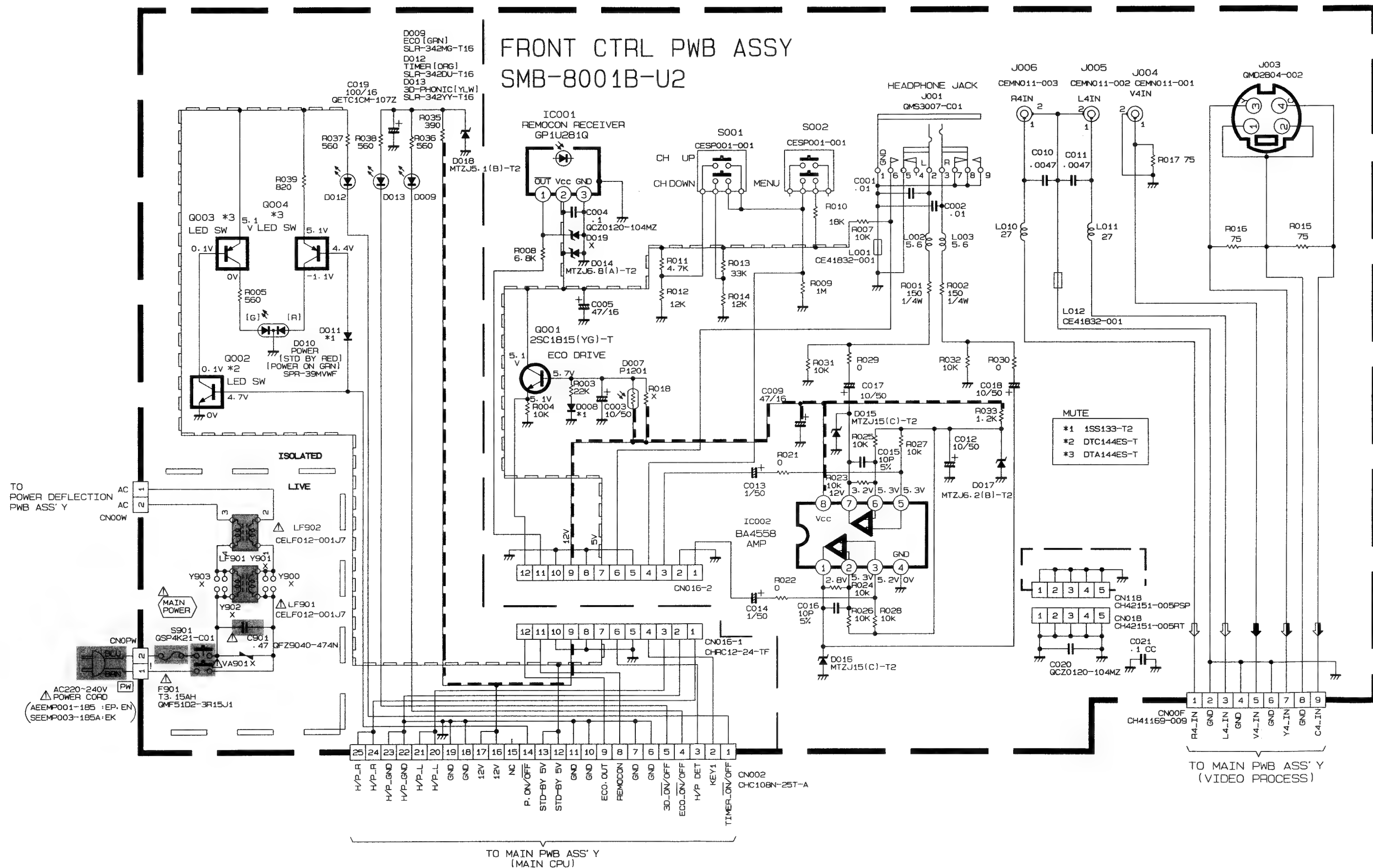
【 CRT SKT PWB CIRCUIT DIAGRAM 】



【 AV TERMINAL PWB CIRCUIT DIAGRAM 】



【 FRONT CONTROL PWB CIRCUIT DIAGRAM 】



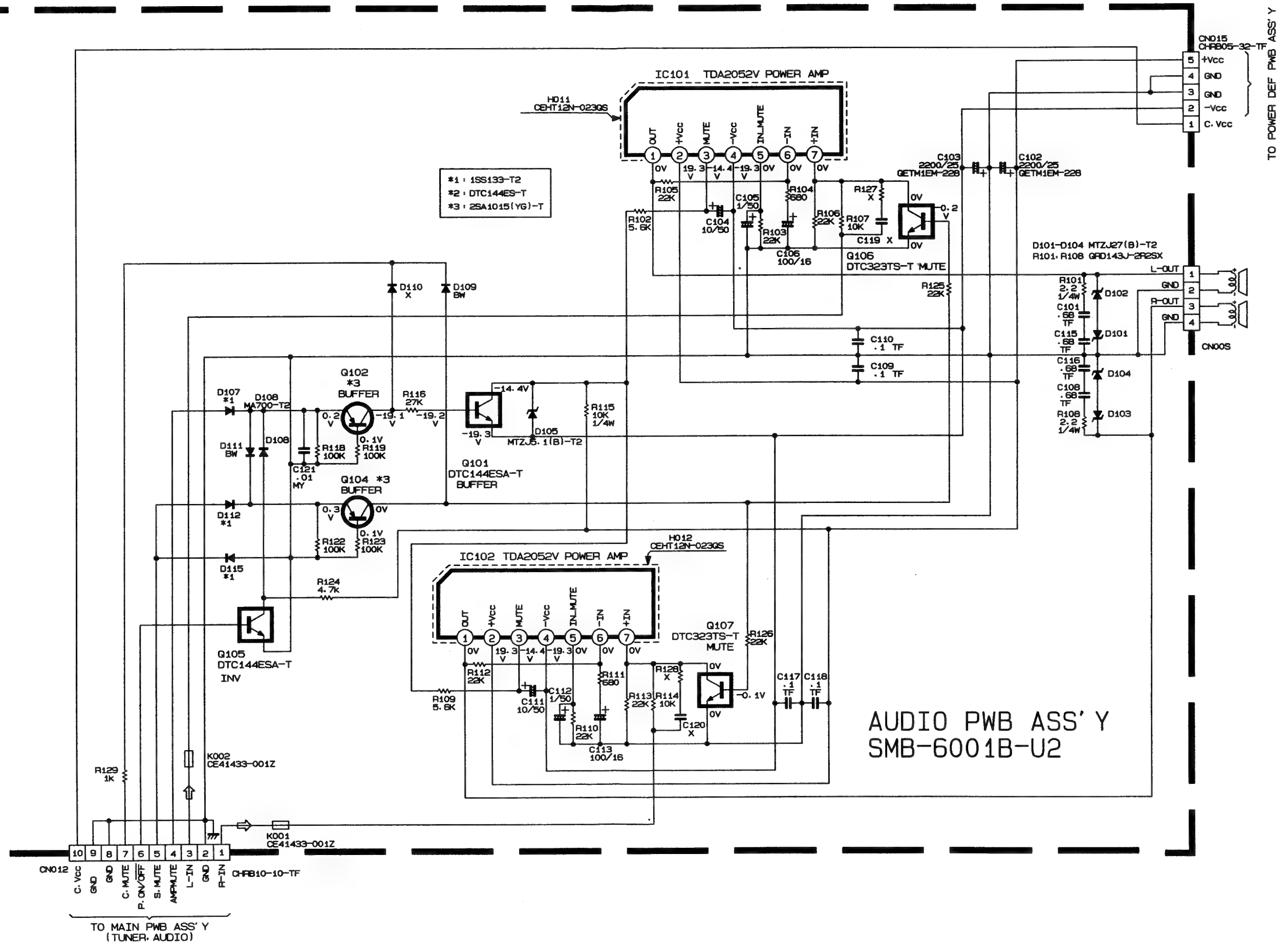




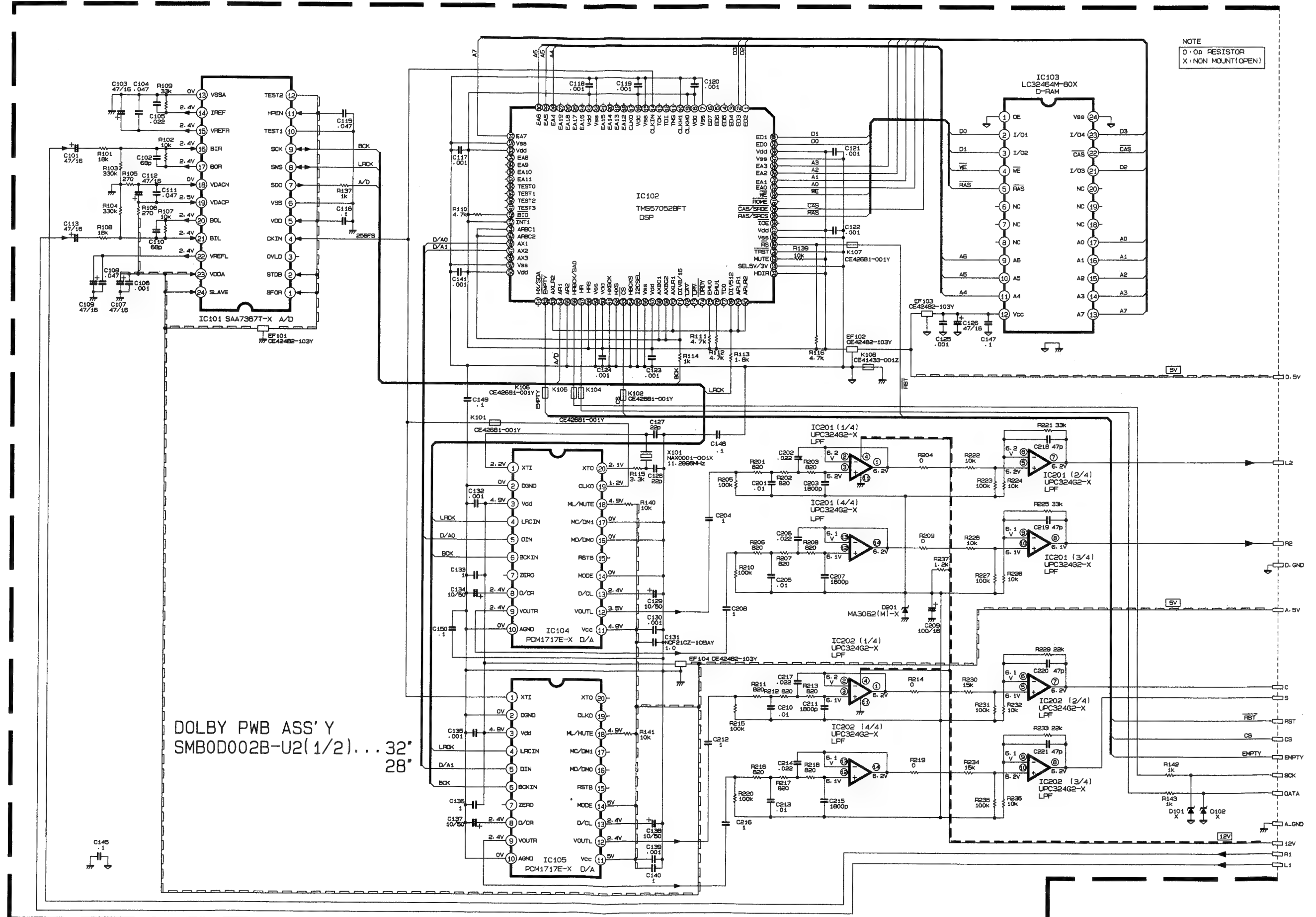
AV-32WP2EN  
AV-32WP2EP

AV-32WP2EN  
AV-32WP2EP

【 AUDIO PWB CIRCUIT DIAGRAM 】

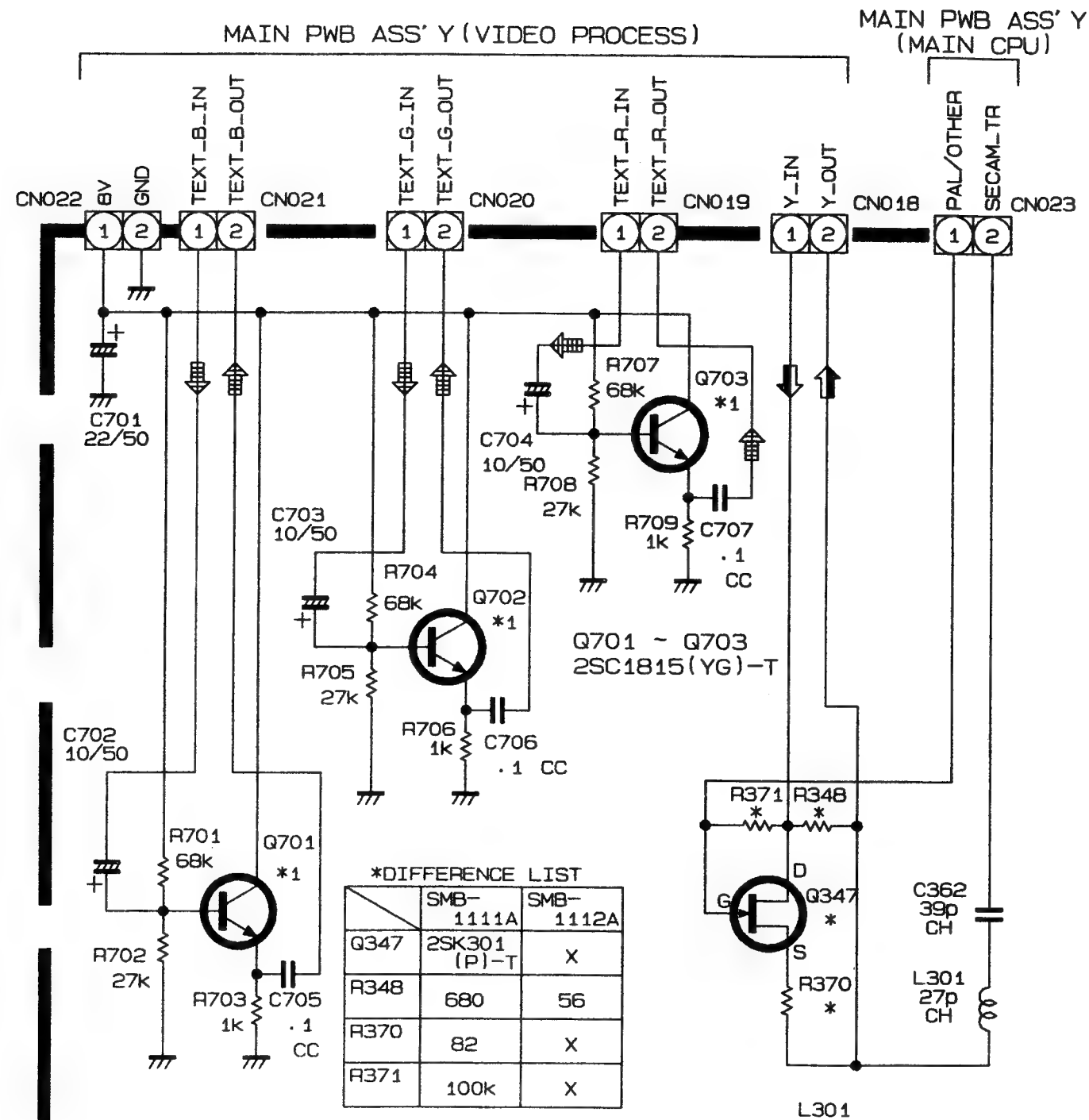


**【 DOLBY PWB CIRCUIT DIAGRAM 】**

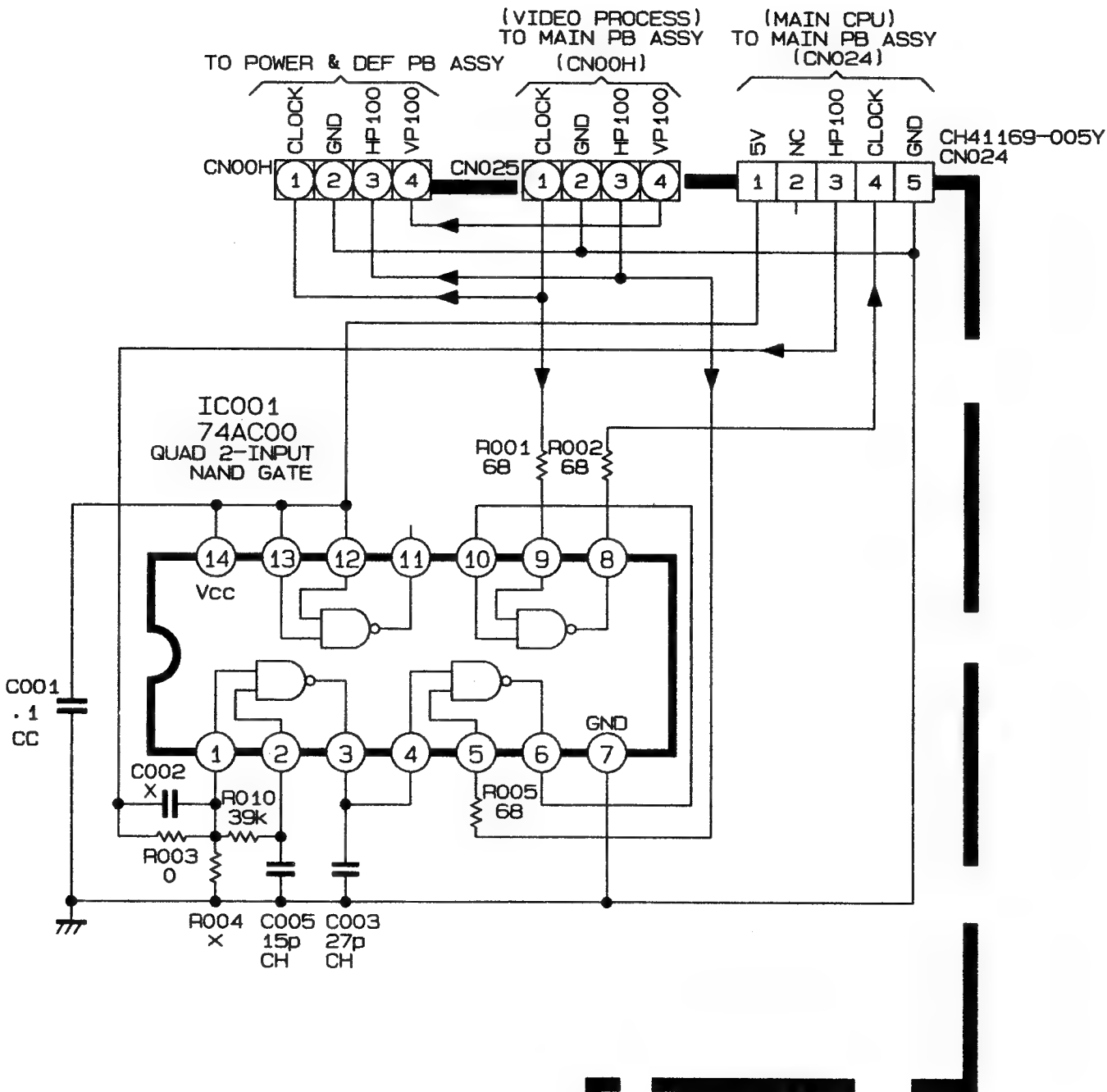




[ SUB TEXT PWB CIRCUIT DIAGRAM ]



SUB TEXT PB ASSY  
SMB1111B-U2..EP/EN    SMB1112B-U2..EK





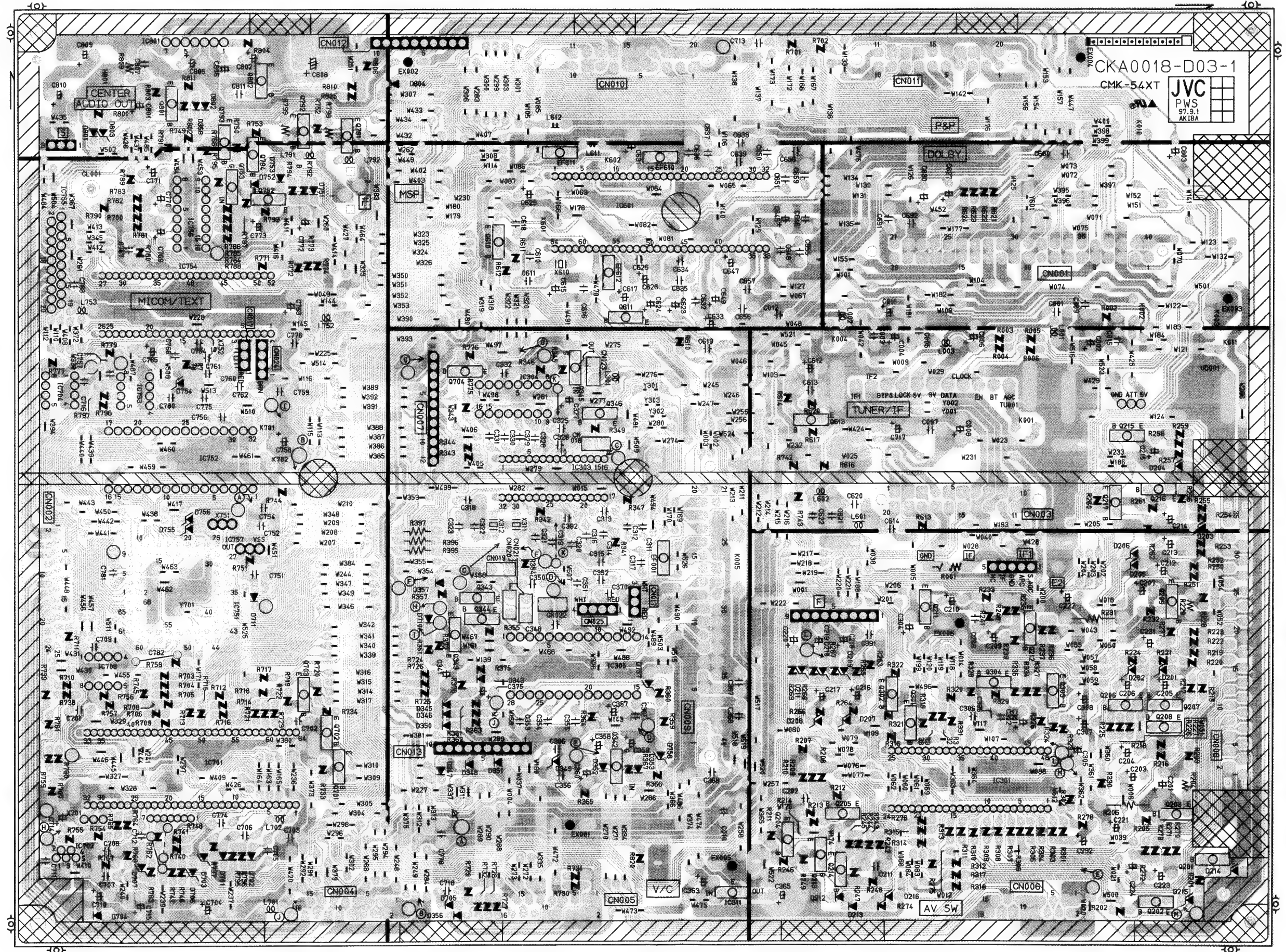
## No.51237D





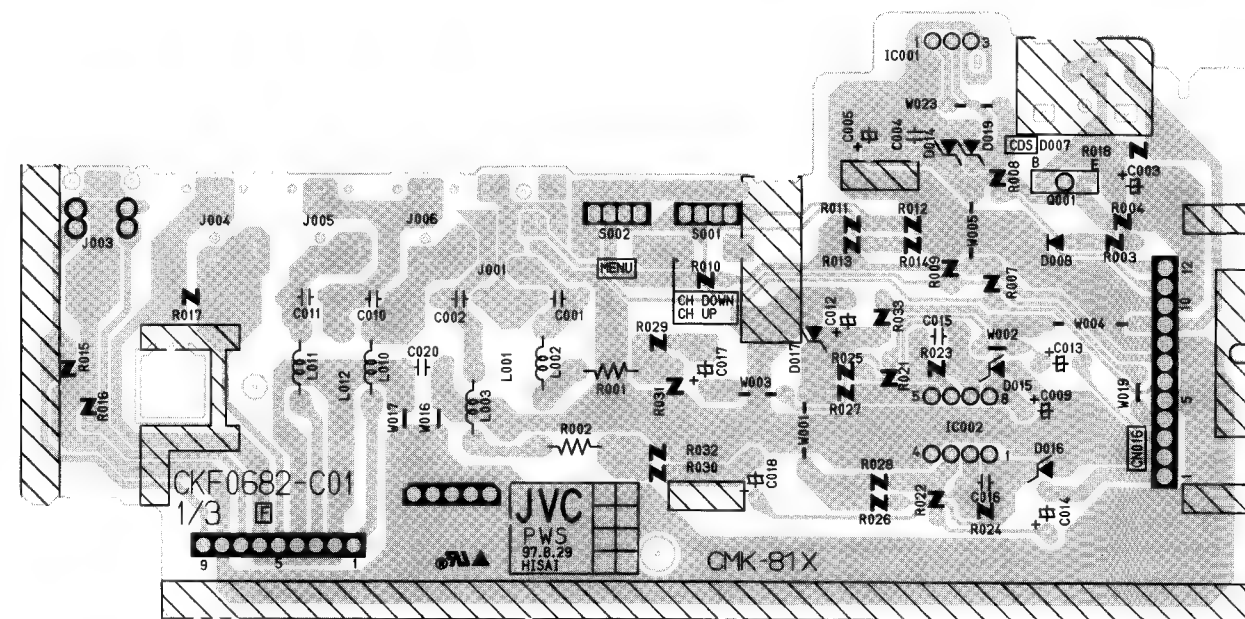


【 MAIN PWB PATTERN ( SOLDER SIDE ) 】

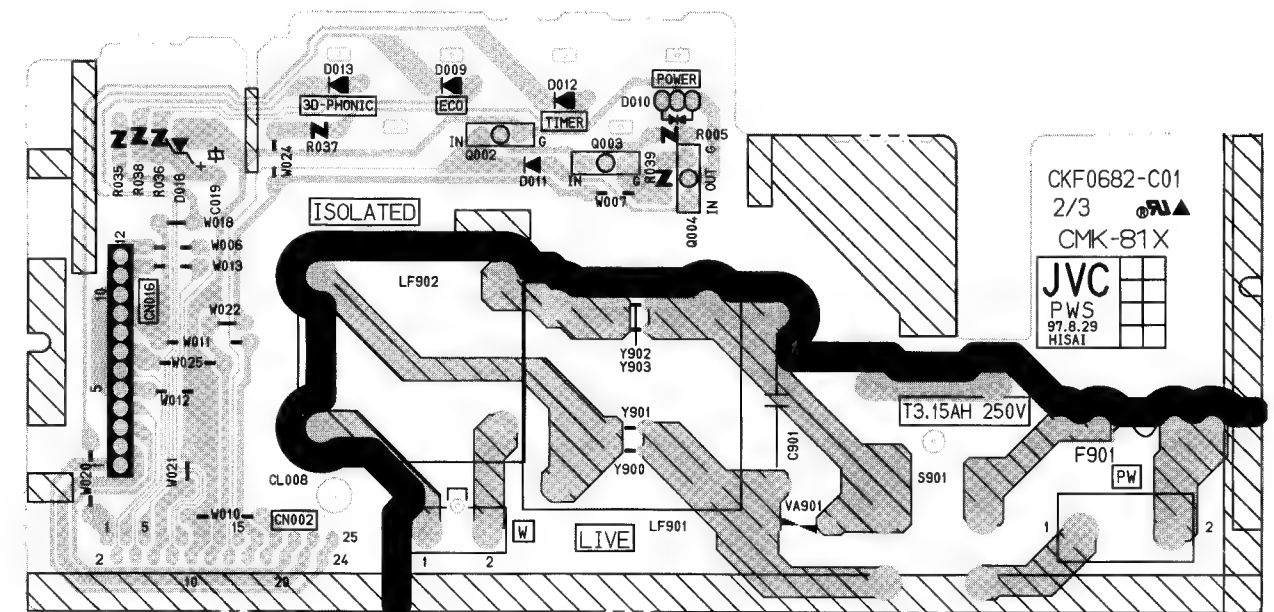




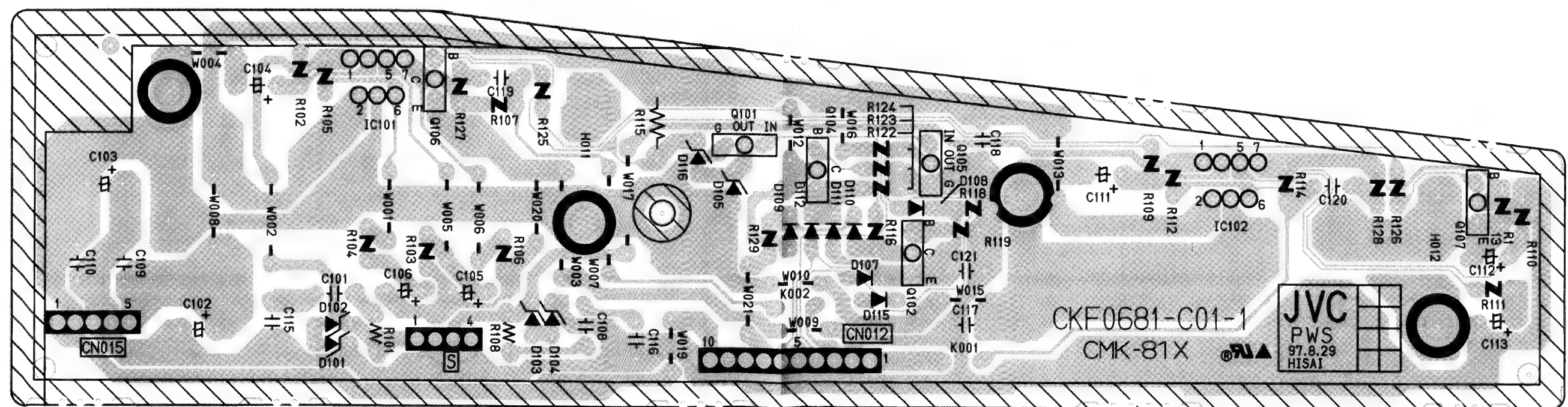
### 【 FRONT CONTROL PWB PATTERN 1 】



## 【 FRONT CONTROL PWB PATTERN 2 】

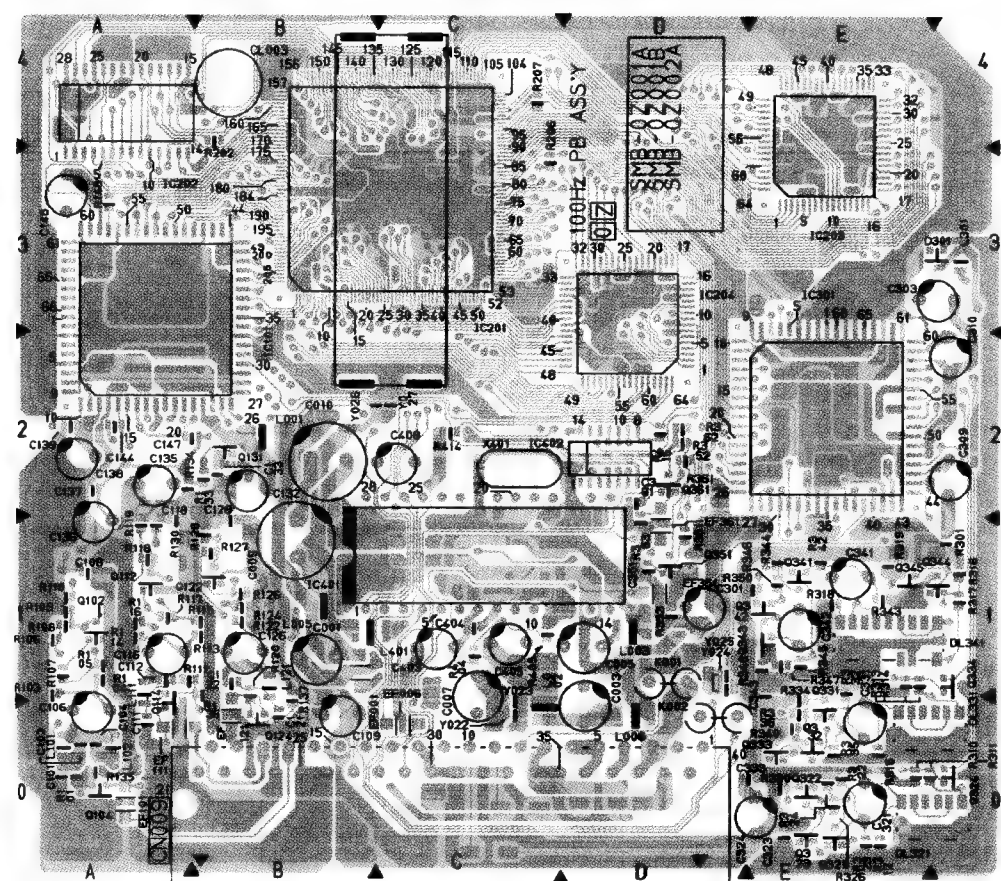


**【 AUDIO PWB PATTERN 】**

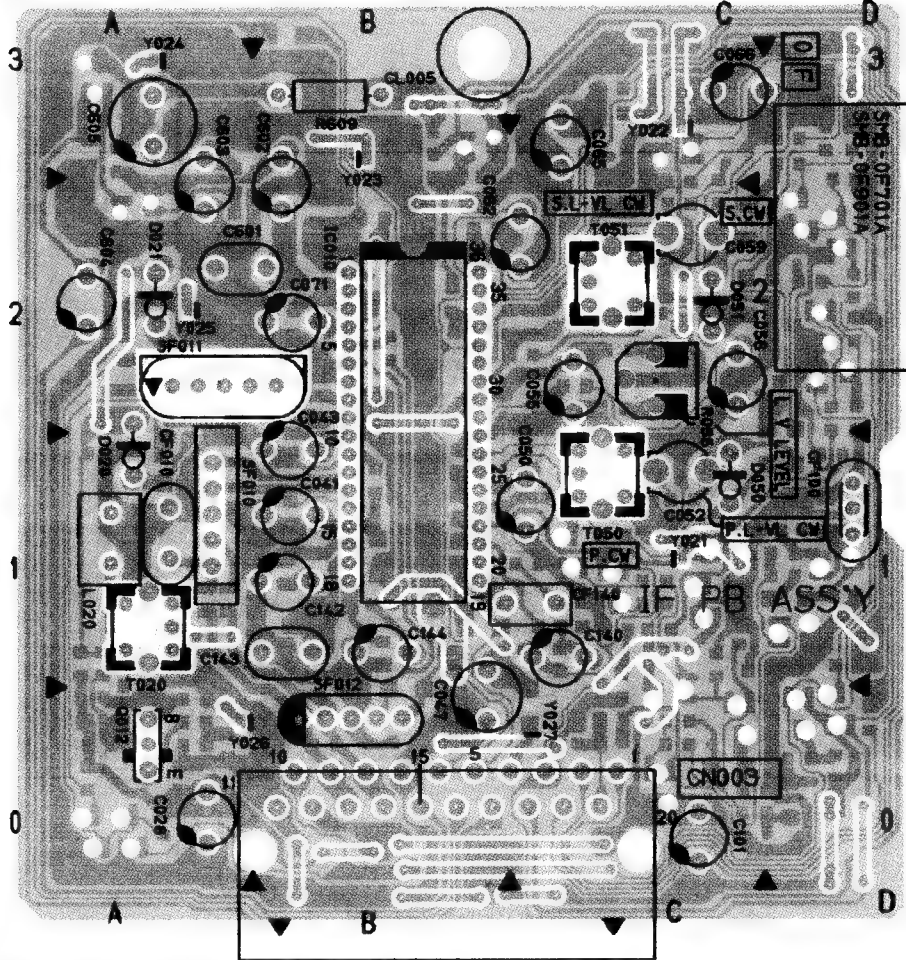




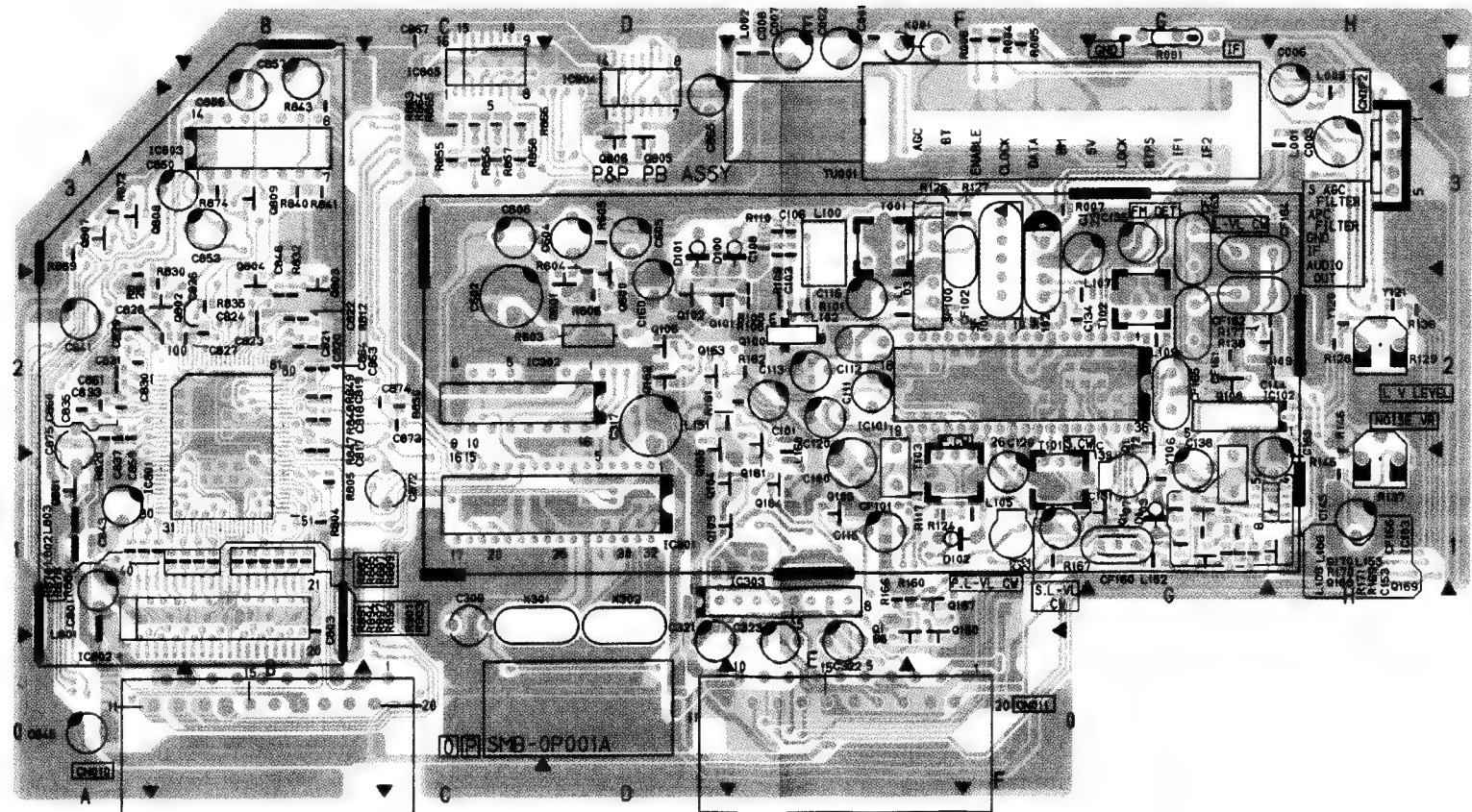
【 100Hz PWB PATTERN ( TOP VIEW ) 】



【 IF PWB PATTERN ( TOP VIEW ) 】

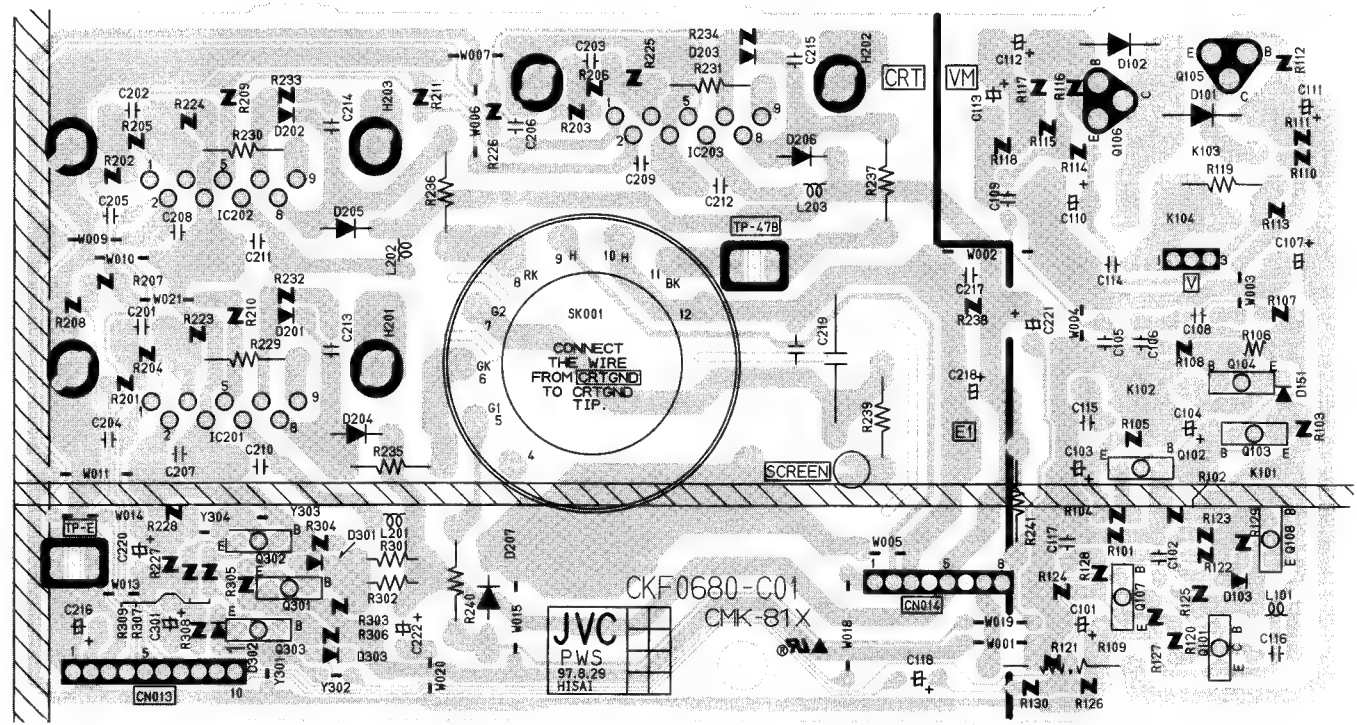


【 P&P PWB PATTERN ( TOP VIEW ) 】



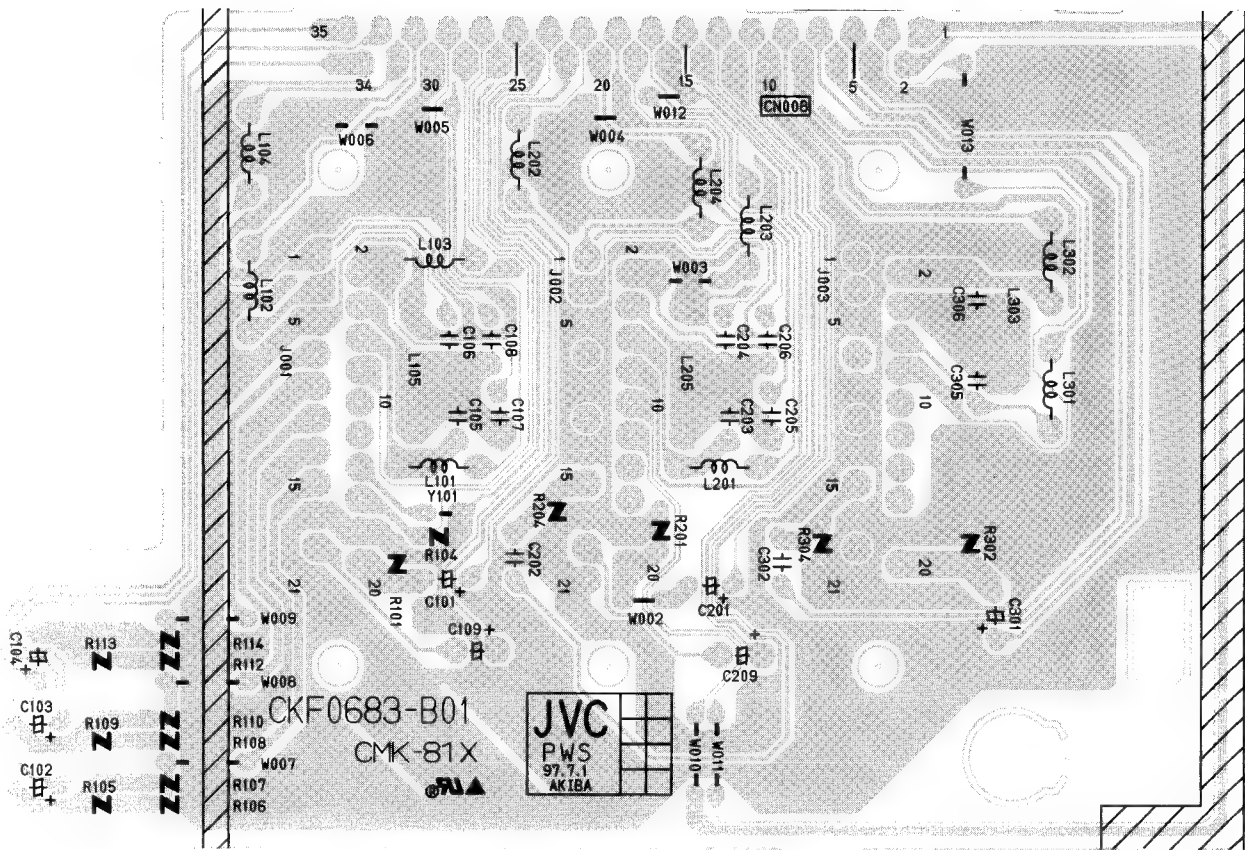
AV-32WP2EN  
AV-32WP2EP

【 CRT SOCKET PWB PATTERN 】



AV-32WP2EN  
AV-32WP2EP

【 AV TER. PWB PATTERN 】

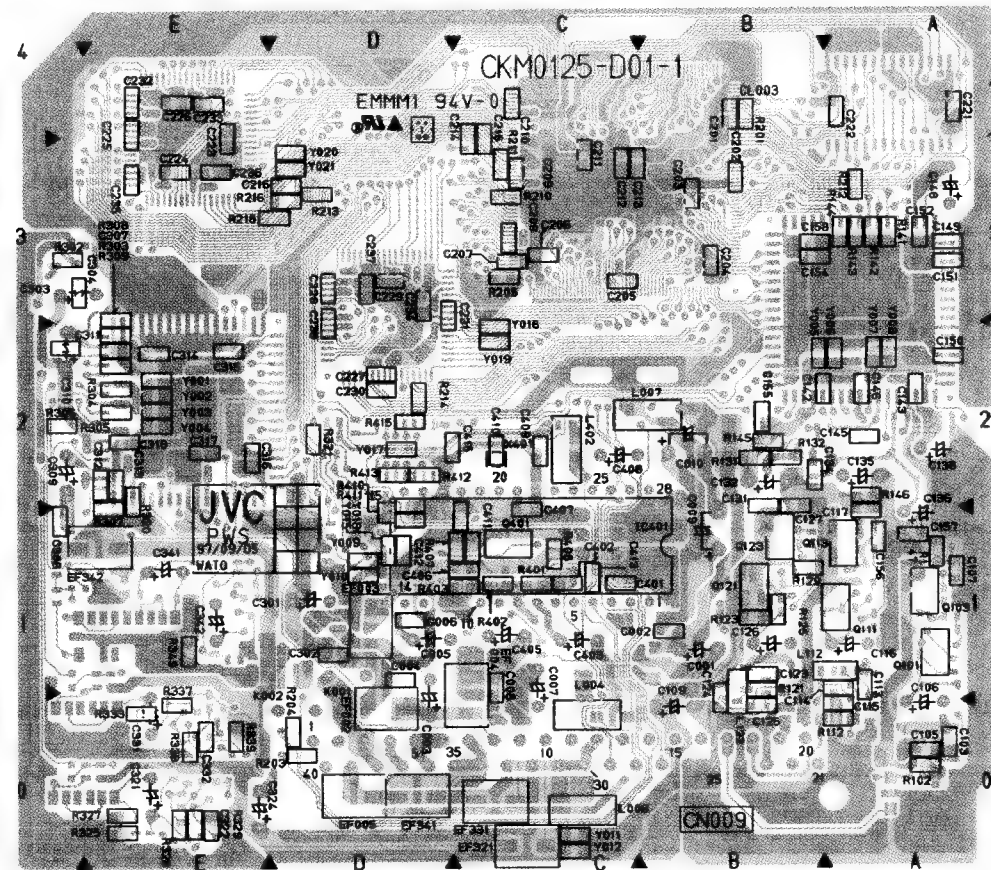




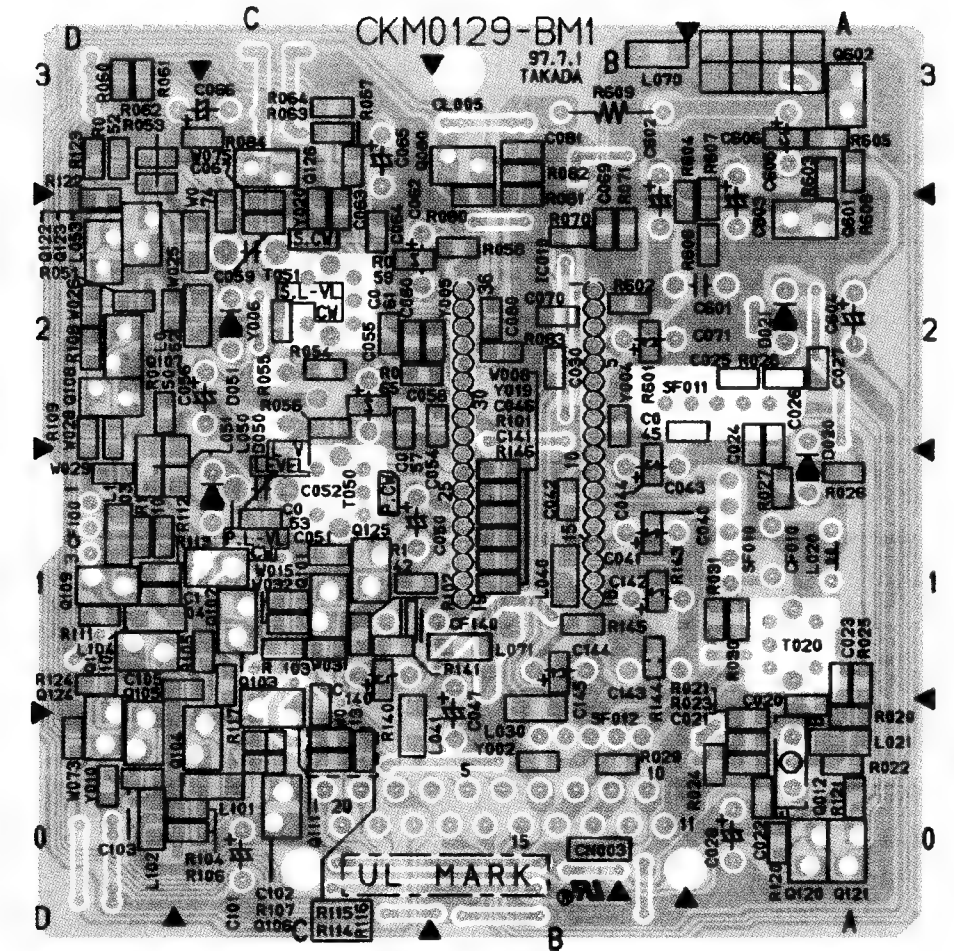
AV-32WP2EN  
AV-32WP2EP

AV-32WP2EN  
AV-32WP2EP

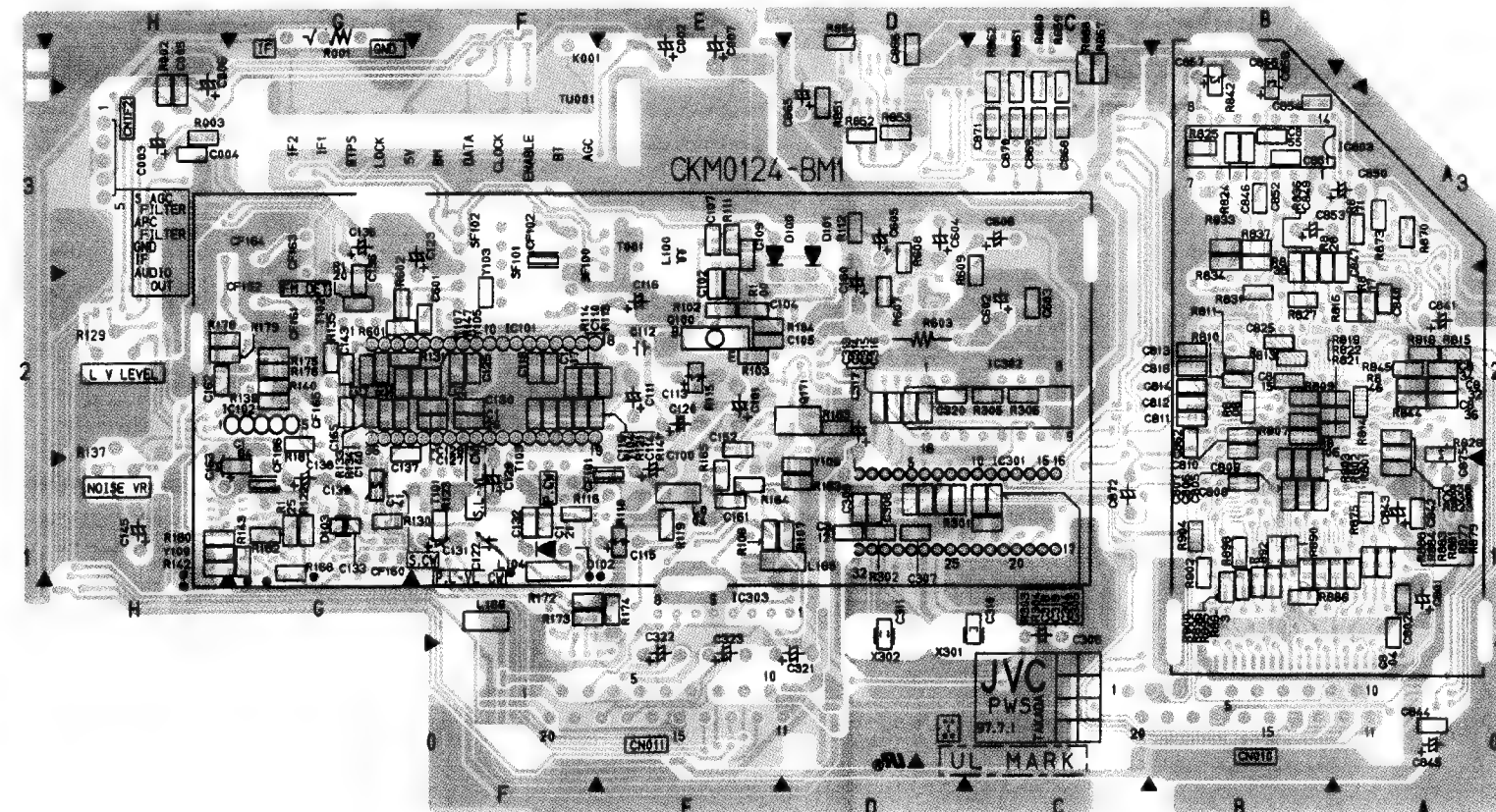
【 100Hz PWB PATTERN ( BOTTOM VIEW ) 】



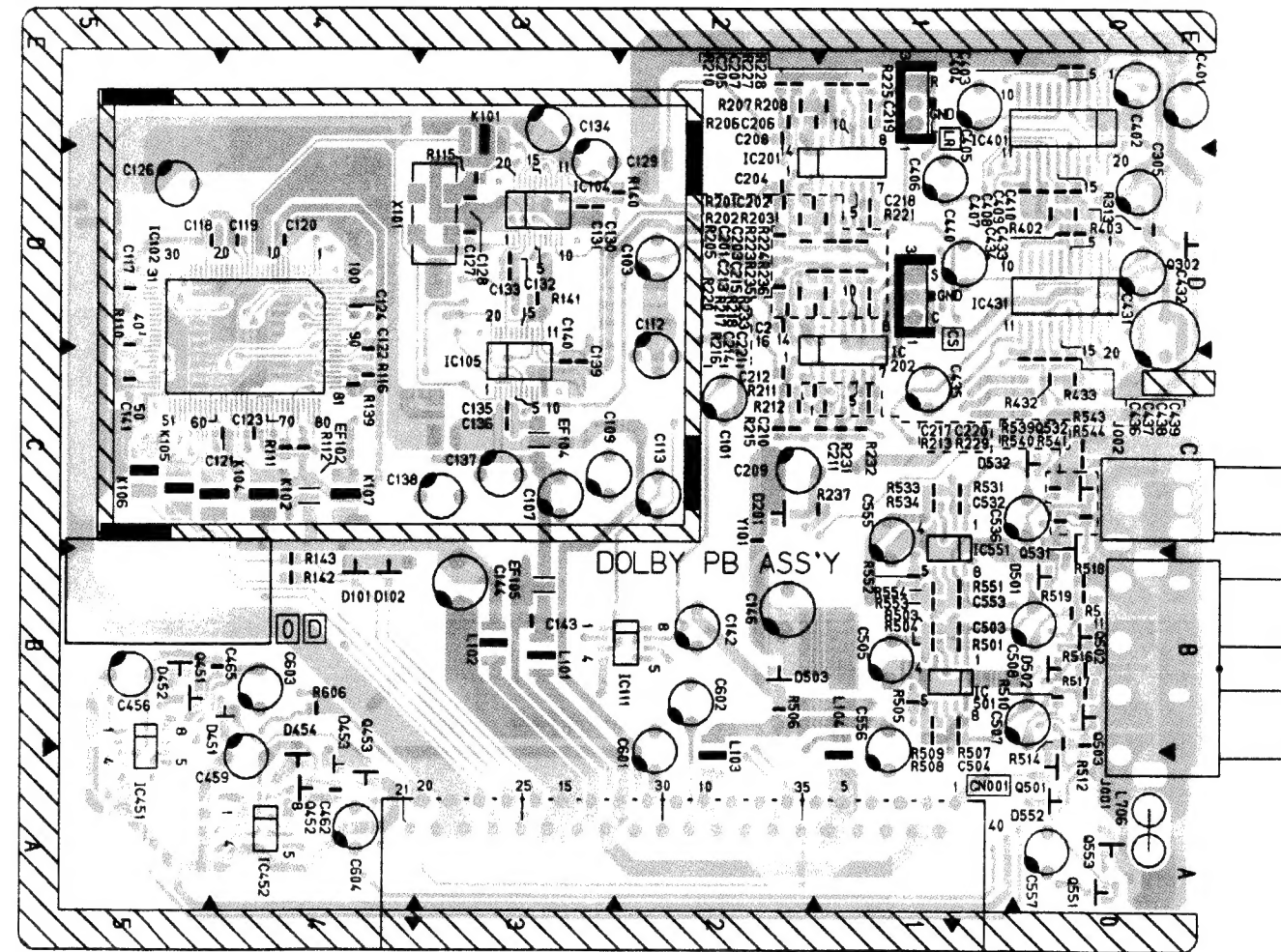
【 IF PWB PATTERN ( BOTTOM VIEW ) 】



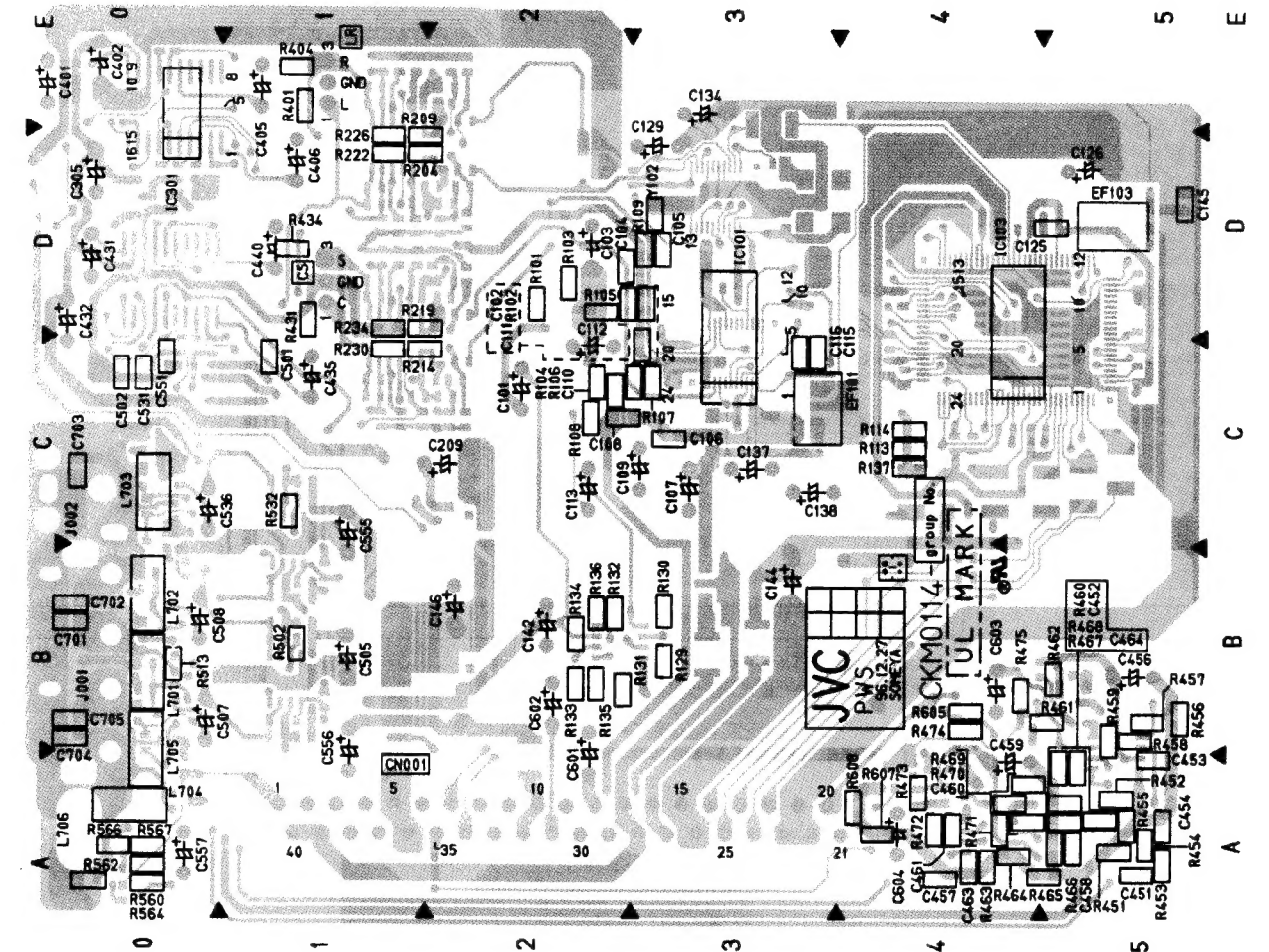
【 P&P PWB PATTERN ( BOTTOM VIEW ) 】



【 DOLBY PWB PATTERN ( TOP VIEW ) 】

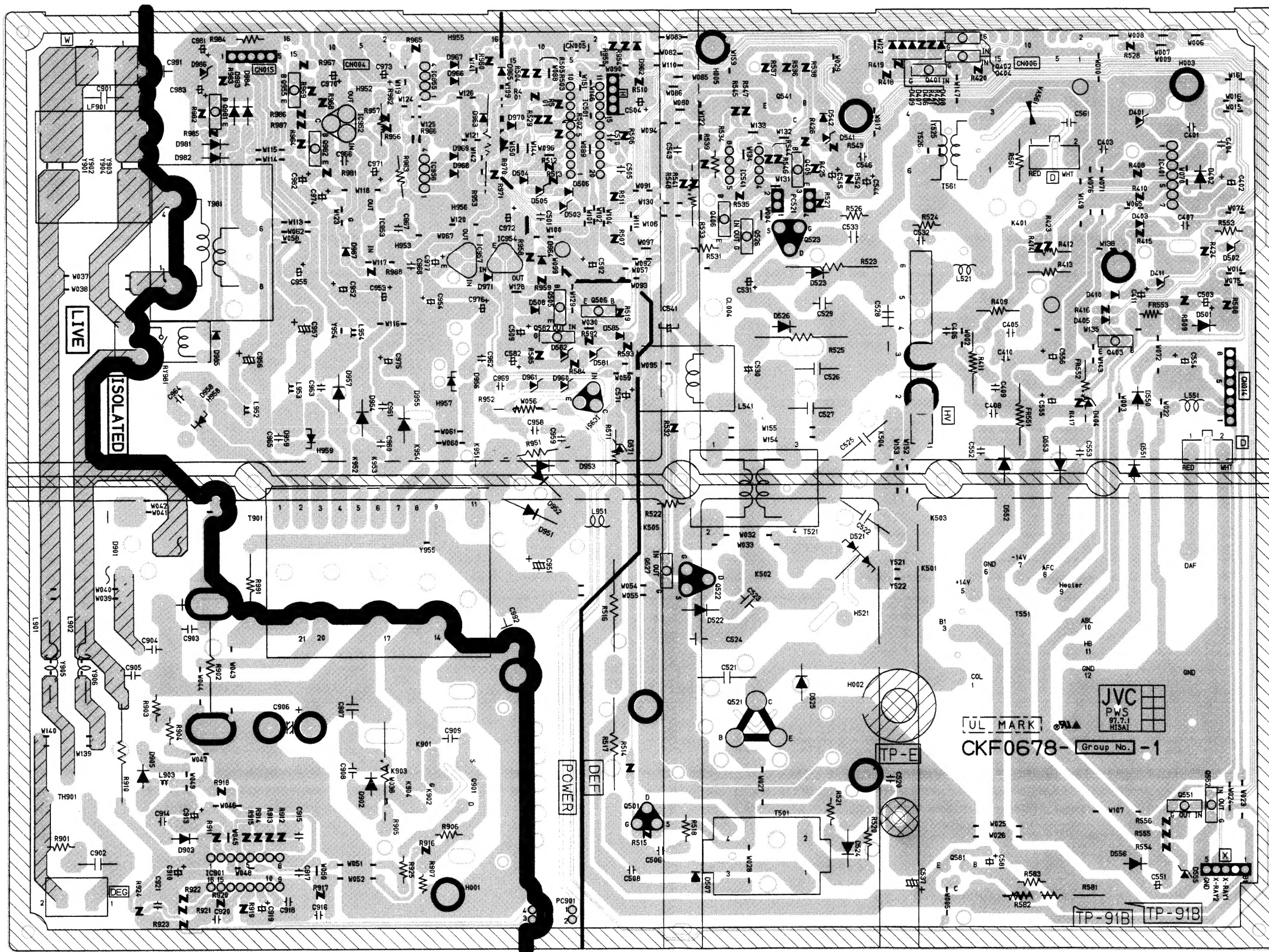


【 DOLBY PWB PATTERN ( BOTTOM VIEW ) 】





【 POWER DEF PWB PATTERN 】



AV-32WP2EN  
AV-32WP2EP

AV-32WP2EN  
AV-32WP2EP



【 SUB TEXT PWB PATTERN 】

